

19980812.qrp v01_n181.qrs.980812

Date: Wed, 12 Aug 1998 19:08:11 EDT
From: qrp-l@Lehigh.EDU
To: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>
Subject: QRP-L digest 1181

QRP-L Digest 1181

Topics covered in this issue include:

- 1) [17342] Re: CallBook?
by nhoop@centuryinter.net (Nat H)
- 2) [17343] Building is Funnnnnnn!!!
by "James Fielden" <fielden@utkux.utcc.utk.edu>
- 3) [17344] More Mixer Madness
by "laura halliday" <marsgal42@hotmail.com>
- 4) [17345] Sun's Solaris OS. (Not QRP)
by "Vincent Ferme" <vferme@sprint.ca>
- 5) [17346] 10 Meter Joy
by MJC191@aol.com
- 6) [17347] Re: Sun's Solaris OS. (Not QRP)
by KC5TJA <kc5tja@topaz.axisinternet.com>
- 7) [17348] PointCast NASA channel. (Not QRP)
by "Vincent Ferme" <vferme@sprint.ca>
- 8) [17349] Re: KC1 schematic
by JACKS118@aol.com
- 9) [17350] SW30+: 5 watts output achieved! (LONG)
by gsurrency@juno.com (Gary L Surrency)
- 10) [17351] 10 watt rf power amplifier
by ADRAMIS@aol.com
- 11) [17352] Hot Air Balloon (Sorta QRP)
by Ward Hill <w_hill@ns.net>
- 12) [17353] NW40 + Other Stuff For Sale
by "Jerry McCollom" <jmc@cnd.hp.com>
- 13) [17354] Heath schematics
by Ron <rong@slip.net>
- 14) [17355] Re: SW30+: 5 watts output achieved! (LONG)
by Paul Harden <pharden@aoc.nrao.edu>
- 15) [17356] Morse Test
by "DJ Rock" <b2bn@hotmail.com>
- 16) [17357] Re: Morse Test
by "KWM" <martins@ccosmo.net>
- 17) [17358] FCC Proposal
by cjcole <cjcole@ames.net>
- 18) [17359] Miles per watt with BPSK?
by "Rich Dailey, KA8OKH" <ka8okh@som-uky.campus.mci.net>
- 19) [17360]

by "CRAIG A REYNOLDS" <KF4AXT@prodigy.net>
20) [17361]
by "CRAIG A REYNOLDS" <KF4AXT@prodigy.net>
21) [17362] RE: FCC Proposal
by Tracy@bytemark.com (Tracy)
22) [17363] SW+20 frequency range mod
by "David Ek" <ekdave@earthlink.net>
23) [17364]
by "CRAIG A REYNOLDS" <KF4AXT@prodigy.net>
24) [17365] RE: FCC Proposal
by Paul Harden <pharden@aoc.nrao.edu>
25) [17366] MINI PADDLES AND MINI STRAIGHT KEYS
by "CRAIG A REYNOLDS" <KF4AXT@prodigy.net>
26) [17367] Re: your mail
by Monte Stark <ku7y@dri.edu>
27) [17368] COIL-LESS SLV A SUCCESS!
by ARDUJENSKI@aol.com
28) [17369] "K2: First User's Review" ... (what fun!)
by Conrad <radman@best.com>
29) [17370] 4.7k/4k7
by John Fletcher <johnf@innotts.co.uk>
30) [17371] Re: FCC Proposal
by "Barry L. Geipel" <bgeipel@primenet.com>
31) [17372] Re: FCC Proposal
by "Peter C. Buehner" <kc8er@harborcom.net>
32) [17373] Re: FCC Proposal
by "Peter C. Buehner" <kc8er@harborcom.net>
33) [17374] HTML Coax Repairs
by n4so@juno.com (charles k brown)
34) [17375] RE: FCC Proposal
by "Kevin Muenzler WB5RUE" <wb5rue@stic.net>
35) [17376] Re: Spell checker
by Roger Braker <msebrakr@telepath.com>
36) [17377] Elmer 101: more questions
by Paul Helbert <phelbert@rica.net>
37) [17378] RE: FCC Proposal
by "James C. Owen, III" <owen@piper.eeel.nist.gov>
38) [17379] RE: FCC Proposal
by "James C. Owen, III" <owen@piper.eeel.nist.gov>
39) [17380] FCC Proposal
by Roger Hightower <n7kt@earthlink.net>
40) [17381] RE: 10 watt rf power amplifier
by "Peter_dl2fi" <Peter_DL2FI@CSI.com>
41) [17382] memory w/keyers
by "Jim C" <jimc@msw0.attnet.or.jp>
42) [17383] Re: ELECTRONIC WORKBENCH
by "Jim Kortge, K8IQY" <jokortge@mci2000.com>
43) [17384] RE: NW40 + Other Stuff For Sale

by "Jerry McCollom" <jmc@cnd.hp.com>
44) [17385] RE: FCC Proposal
by Paula Bailey <pmbail01@ox.slug.louisville.edu>
45) [17386] Re: ELECTRONIC WORKBENCH
by "Vincent Ferme" <vferme@sprint.ca>
46) [17387] Re: FCC Proposal
by Bob Hightower <ki7mn@dancris.com>
47) [17388] RE: FCC Proposal
by Paula Bailey <pmbail01@ox.slug.louisville.edu>
48) [17389] RE: Short antennas that work !
by "Prof. Arnaldo Coro Antich" <inforhc@mail.infocom.etecsa.cu>
49) [17390] RE: memory w/keyers
by "Kevin Muenzler WB5RUE" <wb5rue@stic.net>
50) [17391] RE: NW40 + Other Stuff For Sale
by "Jerry McCollom" <jmc@cnd.hp.com>
51) [17392] TAC Contest
by Bob Patten <n4bp@bc.seflin.org>
52) [17393] Help understanding dual-gate MOSFETs (Longish)
by John Fletcher <johnf@innotts.co.uk>
53) [17394] Re: your mail
by KC5TJA <kc5tja@topaz.axisinternet.com>
54) [17395] Re: Help understanding dual-gate MOSFETs (Longish)
by Chris Trask <ctrask@primenet.com>
55) [17396] Re: FCC Proposal
by KC5TJA <kc5tja@topaz.axisinternet.com>
56) [17397] Ham Gear for Sale
by k6hcj@JUNO.COM (Marv Fagenson)
57) [17398] re:simple request
by Kelly <kelman@dialnet.net>
58) [17399] Re: FCC Proposal
by KC5TJA <kc5tja@topaz.axisinternet.com>
59) [17400] RE: MINI PADDLES AND MINI STRAIGHT KEYS
by Chris Cieslak <ccieslak@LAW.UIUC.EDU>
60) [17401] Re: FCC Proposal
by Andy Fox <foxes@theriver.com>
61) [17402] Re: Short antennas that work !
by RangerSF5@aol.com
62) [17403] A QRPer's Extra Exam?
by KC5TJA <kc5tja@topaz.axisinternet.com>
63) [17404] FCC Proposal
by cjcole <cjcole@ames.net>
64) [17405] INFO/COMMENTS ON ICQ7A
by kreinbd@ccgate.dl.nec.com (David Kreinberg)
65) [17406] Bidding Closes on Single Digit Nye 330C Keys
by "Marshall Emm" <mgemm@mtechnologies.com>
66) [17407] Heights Towers still around?
by Allen Jones <ajones@adsnet.com>
67) [17408] Re: Miles per watt with BPSK?

by KC5TJA <kc5tja@topaz.axisinternet.com>
68) [17409] rig for sale
by "Jay Heffner" <cjayheff@erols.com>
69) [17410] GDO coils "how"
by wj5o@juno.com (William H. Hays)
70) [17411] Spectrum Analyzer/Scope Adaptor
by Stephen Lee <slee@u.washington.edu>
71) [17412] No-qrp
by Michael Maiorana <mikemo@ibm.net>
72) [17413] FCC NPRM released!
by "Jeff Logullo - SE Sun St. Louis" <Jeff.Logullo@Central.Sun.COM>
73) [17414] LQQKING FOR KY2R
by RangerSF5@aol.com
74) [17415] Longwire help.....pse!!!
by ab5uacw@juno.com (Clifton W Sikes)
75) [17416] need info
by bkobie@webtv.net (patrick obrien)
76) [17417] Re: need info
by Stephen Lee <slee@u.washington.edu>
77) [17418] Re: No-qrp
by Roger Braker <msebrakr@telepath.com>
78) [17419] Re: FCC Proposal
by Jim Lowman <jmlowman@ix.netcom.com>
79) [17420] Humor
by ac5ez@webtv.net (Larry B)
80) [17421] baby linears for QRP rigs
by Allan Taylor K7GT <k7gt@qsl.net>

Date: Tue, 11 Aug 1998 23:25:15 GMT
From: nhoop@centuryinter.net (Nat H)
To: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>
Subject: [17342] Re: CallBook?
Message-ID: <35d0d17a.3906090@mail.ot.centuryinter.net>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

My sincerest thanks to all that helped me with this. I got good news and bad news.

The bad news: My first CW/QRP contact I logged as "Bernard" @ LB9FA0 was evidently with someone else. No one could find that call sign.

The good news was that I don't need to shell out for a call book(G). there are plenty of on-line sources.

Thanks again,

72 Nat KM5QU
Oxford AR

Date: Tue, 11 Aug 1998 19:44:47 -0400
From: "James Fielden" <fielden@utkux.utcc.utk.edu>
To: "QRP-L" <qrp-l@Lehigh.EDU>
Subject: [17343] Building is Funnnnnn!!!
Message-ID: <01bdc582\$05e424e0\$cf12a980@galaxian>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Hello All,
Well two days back from vacation and I've built a 30 Meter SST, a Norcal 40A with KC-1 all from Wilderness and A CQRP MRX-40 Receiver. What fun it has been, I am really happy with how the Wilderness kits go together, I did get confused a time or two on the KC-1 but once I read the manual I drilled my hole and figured it out. Now if I could just get my Antenna working again I could put all this to use.

Looking forward to working you all on 30/40 Meter soon...

73	--	Jim, KU4QW	No-SSB
International (tm)			
fielden@utkux.utcc.utk.edu			Member Number
1,000,014			
http://web.utk.edu/~fielden			Believe It
(tm)			
If You *CAN* Beep, NSI Wants YOU !			
http://www.qsl.net/kh2d/nossb.html			

Date: Tue, 11 Aug 1998 16:56:33 PDT
From: "laura halliday" <marsgal42@hotmail.com>
To: qrp-l@Lehigh.EDU
Subject: [17344] More Mixer Madness
Message-ID: <19980811235634.21943.qmail@hotmail.com>
Content-Type: text/plain

I'm pleased to see that Fairchild have updated their web page (<http://www.fairchildsemi.com>), and the datasheets for fst3125/3126 are now available. Once the dust settles from my upcoming move (Toronto. School, ya know...) I'll be anxious to get some to play with.

5 ns switching time. 4 ohms on resistance. Can you handle it?

Laura Halliday VE7LDH "Laisse le vent tout emporter..."
Grid: CN88hk IOTA: NA036 - Foly/Viennet

P.S. I note also somebody who has sent me a couple of emails, but whose ISP blocks Hotmail addresses. Sorry.

Get Your Private, Free Email at <http://www.hotmail.com>

Date: Tue, 11 Aug 1998 19:58:56 -0400
From: "Vincent Ferme" <vferme@sprint.ca>
To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>
Subject: [17345] Sun's Solaris OS. (Not QRP)
Message-ID: <003e01bdc584\$016e4240\$b13167d1@vince>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

It was announced today that Sun will provide free licenses to non-commercial users of its Solaris OS. Both the PC and SPARC platform versions will be available for the cost of media and s/h. This is another reaction the the growth of LINUX.

73/72 de Vince, VE3VFN.

Date: Tue, 11 Aug 1998 20:22:55 EDT
From: MJC191@aol.com
To: qrp-1@Lehigh.EDU
Subject: [17346] 10 Meter Joy
Message-ID: <f8afabf.35d0e064@aol.com>

Mime-Version: 1.0
Content-type: text/plain; charset=US-ASCII
Content-transfer-encoding: 7bit

NA1XX near Boston MA pleased to work N5TW in TX,
at 0000z on 28.039. My Fox #2!
Tom, if you copy, that Sierra was doing great in between the
QRM & QSB.
Rig here Uniden HR-2510 at 5 w to 1/2 square wire ant up 20 ft.
72 to all!
Mike NA1XX

Date: Tue, 11 Aug 1998 17:26:53 -0700 (PDT)
From: KC5TJA <kc5tja@topaz.axisinternet.com>
To: Vincent Ferme <vferme@sprint.ca>
Cc: Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>
Subject: [17347] Re: Sun's Solaris OS. (Not QRP)
Message-ID: <Pine.LNX.3.96.980811172548.25507A-1000000@topaz.axisinternet.com>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

On Tue, 11 Aug 1998, Vincent Ferme wrote:

> It was announced today that Sun will provide free licenses to
> non-commercial users of its Solaris OS. Both the PC and SPARC platform
> versions will be available for the cost of media and s/h. This is another
> reaction the the growth of LINUX.

Long live Linux!! :)

Actually, I'm pretty glad that it's happening. Maybe other OS developers
will do the same. I know that Amoeba was recently made freely available
too.

=====

KC5TJA/6		- TEAM DOLPHIN -
DM13		Samuel A. Falvo II
QRP-L #1447		http://www.dolphin.openprojects.net
Oceanside, CA	

Date: Tue, 11 Aug 1998 20:55:24 -0400

From: "Vincent Ferme" <vferme@sprint.ca>
To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>
Subject: [17348] PointCast NASA channel. (Not QRP)
Message-ID: <005c01bdc58b\$e4299ba0\$b13167d1@vince>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Gang,

My apologies for the non-QRP related posting. I think it's still of interest to a good number of people on the list.

The new version of PointCast has a good number of new channels. There is the FCC channel (if you like legalese) and the one I liked the most, the NASA channel. It includes NASA News, Space Shuttle, Space Station, Mars Mission, Hubble Space Telescope, and Galileo folders.

PointCast software and service is free to the end user, it's another ad supported service. Their software can be downloaded from www.pointcast.com.
.

No connection with PointCast.

73/72 de Vince, VE3VFN.

Date: Tue, 11 Aug 1998 21:51:44 EDT
From: JACKS118@aol.com
To: qrp-1@Lehigh.EDU
Subject: [17349] Re: KC1 schematic
Message-ID: <da1f1c9d.35d0f531@aol.com>
Mime-Version: 1.0
Content-type: text/plain; charset=US-ASCII
Content-transfer-encoding: 7bit

In a message dated 8/11/98 4:12:26 PM EST, n7kt@earthlink.net writes:

> The KC1 requires a stereo jack, since it's designed for use with a
> paddle. There is no straight key function.
>
> The NorCal 40A uses a key-to-ground system, so it can take a straight
> key or a two-conductor cable from an external keyer.
> --

> 72/73, de Roger, N7KT - QRP-L #62 - Mesa, AZ

>

There is a way to use the KC1 with a straight key. You need to place a diode between the dot pad on the KC1 and the straight key pad. This will wake up the processor and allow you tinput commands to the KC1. The instructions are in the manual. If you have more questions, contact me directly.

Jack, KB9LEB

New Smyrna Beach, FL

<http://www.geocities.com/SiliconValley/Lab/2266/>

Date: Tue, 11 Aug 1998 19:13:37 -0700

From: gsurrency@juno.com (Gary L Surrency)

To: qrp-l@Lehigh.EDU

Subject: [17350] SW30+: 5 watts output achieved! (LONG)

Message-ID: <19980811.191338.10014.1.gsurrency@juno.com>

Gang,

For those of you who want more output than the standard 2-3 watts the SW30+ is capable of stock as it comes from Dave, I have succeeded in eeking out an additional couple of watts. Not only that, the rig actually became more stable with the mods that I came up with.

Now for a little history:

After I built the kit, I could get maybe 3-4 watts when increasing the drive pot before the output got dirty, and the collector choke in the PA stage became pretty warm. After an earlier posting, several great guys on this list offered some suggestions. While some of them helped a little, the instability was still there when aproaching 4.5 to 5 watts.

I was able to get up to the threshold of 5 watts by using a selected 2N3904 for Q4, and a selected PN2222a for Q5. Along with the other small mods that follow, fairly stable operation at ~5 watts was possible. But if the antenna was reactive at all, or when not using a dummy load for testing puposes, or if I went even a smidge above 4.95 watts - the output spectrum began to deteriorate, and parasitic oscillations in the rig popped the output suddenly to 7-9 watts of crud. I had some limited success with higher bias on Q4 / Q5, and by reducing the lead lengths of these two transistors, but it basically wanted to "take off" on it own right before 5 watts occured on the wattmeter. Heck.

Upon very close scrutiny, and some help from Dave Benson, I found that Miller effects were to blame, and that the succeeding stages after Q4

were not directly the cause of the instability and spurious products. Rather, the source of the instability was Q4 itself. If ground loops, or RF feedback, or poor decoupling at higher power levels are the stimulus for this instability - I can't be sure. As with the Norcal 38 Special, a lot of speculation is in effect here, but no single true solution was evident.

Onward I searched for a solution that would not require a lot of modifications to the circuit design or the PCB. I began to study some of the other designs of the rig's I own. In the S&S Tac-1, gain in the transmitter driver stages is distributed across 4 stages of amplification. One amplifier follows the NE602 mixer, and three more stages of amplification follow the TX bandpass filter before the final PA stage. This way, no single stage or pair of driver stages needs to have a lot of power gain and gain instability is avoided without such high amplification. Total TX driver gain is spread across more devices and the result is good stability and linearity.

In the Norcal Sierra and NC40A, a post-mixer FET amplifier is used to maintain high unloaded Q of the bandpass filter(s), yet adequate power gain is achieved with a single following driver stage without the loss of stability. I thought perhaps substitution of a FET transistor for the post-bandpass filter stage in the SW30+ might be worth a look.

It turns out that by using a J310 in place of Q4, normally a 2N4401 transistor, better stability was possible when running higher levels of drive to the PA stage. In fact, this was a two-fold improvement, since the FET permits much higher input impedance to appear at the output of bandpass filter T3 in the SW30+, maintaining higher loaded Q, and that allows a greater amount of low-level RF to be present at the input of the new FET pre-driver stage, Q4.

At first the higher input impedance possible as a result of using a FET instead of a bipolar device might seem to be the last thing you would want in an driver stage that was already unstable at high PA output levels. But the N-channel FET is inherently more stable, since it can be used at zero bias versus the positive bias needed for the bipolar stage. And, Miller effects tend to be less with a junction FET, since the inter-electrode capacitances are typically lower, and there are fewer biasing resistors required for the FET stage. At least that is how I understand it after doing some research of Miller effect. Somebody correct me if I have it wrong.

For whatever reason, the FET allowed much greater PA output, with absolutely no instability detected by me at any time during my experiments. No combination of power and / or devices following the FET ever caused any instability in my SW30+. It is indeed rock-stable at any and all power levels and antenna loads. Heck, even with no antenna at all

attached to the PA stage, I never have seen any hash on the output signal when viewed on the monitor scope. I like it.

So for those of you who want more power from your SW30+, or if your rig isn't as stable at various antenna loads and power levels as you think it should (could) be, read on.

Note: No traces are cut; some rather simple part substitutions are made; and one less resistor is needed! These are the kind of mods I like to perform.

As in my SW40+, several incremental small gains in power output are achieved in the following manner:

MODIFICATIONS

1. Replace D13 (1N4001) with a 1N5819 or 1N5820 diode. This reduces the DC supply voltage drop. Remove the diode altogether and use a jumper in its place if you use some other form of polarity protection, such as a series fuse and reverse-biased diode from B+ to ground. Just be sure to use something to protect against reverse polarity and short circuits.
2. Replace Q3 (2N3906) with a good 2N4403 PNP or NTE159. Either of these transistors has much lower saturated ON voltage drop, and will help increase the supply voltage to Q4 and Q5. If your keying with the stock 2N3906 is too soft, or has a "tail" on it as someone recently mentioned, this change may correct that problem as well. Note that C110 (3.3uf) may need to be increased in value, since the keyed supply to U5, Q4, and Q5 is now switched "harder" and probably faster as well. I had to do this on my SW40+, and the SW30+ definitely needed a bigger cap for C110, since the rising keyed waveform is much shorter now.
3. D12 (33v zener) has to be changed to a 36v or even 43v zener to prevent it from shunting the higher output voltage of the PA stage, and overheating itself into destruction. Besides, since higher output is desired, we certainly don't want some of that power dissipated as heat in the protective zener! :-)
4. As power levels approach 3-4 watts, L2 in the collector lead of Q6 starts to saturate and get warm. At 5 watts, it gets downright HOT. This power should be going to the antenna instead of heating the collector choke. I pulled out the six turn toroid and measured its value at 15 uH on an AADE L/C II meter. A careful inspection of the junk box turned up a cylindrical ferrite RF choke of the same value. I mounted it standing vertically in place of the original L2 toroid choke. No further heating was noticed, and the output also increased. If you also do this, be sure to get an RF choke that has low DC resistance and can handle the required current of the PA stage. The one I used was not coated, and was about 1/2

inch long and had decent sized wire windings over a iron core. It was of "unknown" origin, but possibly came out of some old Heath gear.

5. The turns on L3 were increased by one turn from 15 to 16 turns. This improved the load matching of the low-pass filter to the PA stage and further increased the output. The spectral purity does not seem to degrade - at least I noticed no increase in SWR on my resonant 30m dipole. The monitor scope waveform also looks nice, but it will take someone with a spectrum analyzer to determine this concretely. Check the other componets in your low-pass filter if the output is still low. Some caps I tried in place of C38 got warm and reduced output. The little monolythic cap Dave supplies performs well - better than several ceramic disks I tried. Surprising!

6. R23 (22k) is removed. It is no longer required.

7. R22 (10k) is replaced with a 1M 1/4 watt resistor. This just keeps the gate of the FET at zero bias with no signal. Without it, the FET's conduction drifts all over the place at low drive settings, and if the original 10k is left in, the input impedance is un-necessarily lowered and will lower the Q of the bandpass filter. The resulting filter bandwidth is more than adequate for the small 35 khz of tuning range on 30m.

8. Q4 is replaced with a J310 FET. A J309 works almost as well if that's all you can find. A MPF102 was not adequate in drive. Other N-channel junction FET's of sufficient transconductance and current rating may also work. The pinout of the PCB is not correct for the FET, therefore some lead bending or re-orientation of the FET package is required for proper connection. If you turn the flat of the J310 so that it is facing Q5, the leads can go into the PCB pads in a similar fashion to the original 2N4401. The gate goes where the base used to go, the drain goes to the collector pad, and the source goes to the emitter pad of the original EBC pad layout. Check the lead identification of your FET if in doubt. It's pretty hard to blow up the FET even if you put it in wrong, but it probably can be done! ;-)

9. Get a small T0-220 heat sink for Q6. With 5 watts of output, it has to be heatsinked. Dave Benson mentions a suitable h/s in the manual. The typical T0-220 h/s commonly available is much too large, unnecessary for this power level, and it won't fit into the available space. It may be possible to bend the 2SC2078 over a little to make something else fit, but I would get the correct fiitting h/s if I were you. Or make up your own as shown in the current QRPp, as Paul Harden illustrated. His artwork is too cool !

10. Check your work; attach a 50 ohm dummy and QRP wattmeter; then apply power and key the rig. Set the drive pot for <1 watt of output, and

carefully peak T2 and T3 in the bandpass filter. Reduce drive as necessary to stay below 1 watt, since this protects the PA from overheating and also seems to indicate the best peaking. Repeat this alignment several times until no further peaking is obtainable. Be sure to use a proper tool so as to not crack the slug in T2 and T3.

11. The output power and the RF envelope should be clean and pure from zero output to near 5 watts or more. You will note the drive pot has greater useful range, indicating the FET is performing very well, and it is more sensitive to the low level RF voltage coming out of the TX bandpass filter. Cool!

12. If your rig still seems anemic, and is short of 5 watts output at 13.8 to 14 volts DC supply, here are some suggestions:

Remove Q5 (2N4401) and try several 2N3904, PN2222a, MPS2222a (available from radio Shack, pn. 276-2009 , \$0.59 each). One of these devices should get you that extra 200-300 mw you may need to achieve 5 watts. I wound up with a NTE123AP as the preferred device in my rig, but several MPS2222a and 2N3904's were nearly as good. Nearly 6 watts is possible with my rig.

13. If you are looking for less receive current demand, install a LMC662CN CMOS op-amp for U4 as recently discussed and offered as a group purchase on the QRP-L. A savings of 6 or 7 milliamps has been reported with this mod. Be sure to wire the stereo headphone jack with the left and right channels in series to make better use of the CMOS op-amp's performance. Enlarge the hole in the aluminum back panel for the headphone jack to clear the plastic shoulder of the stereo 3.5mm jack, then use a flat fiber washer under the knurled nut to insulate the metal jack from the back panel.

SUMMARY

On my rig, I can get a nice solid 5 watts output with the drive pot less than full on. I have *never* seen any spurious output at any drive level or with any antenna load condition. The rig is *very* stable at all power levels and loads. Keying is great, and the transmitter behaves as you really want it to. Even if you don't run it at the full output possible, it is nice to know the potential is there (operation on battery power can now have more possible output) and the stability and alignment is certainly better than before these mods. If you have any questions or feedback on these mods, please let me know by email. Thanks to Dave Benson, Glen Leinweber, and others for their suggestions. Their inputs helped me to zero in on the solution I was looking for. Thanks guys! :-)

This 30m SWL rig was the result of a door prize at the Ft. Tuthill hamfest in July, and I would like to thank everyone who made that possible, especially Dave Benson who graciously made it possible and

offered to swap the 40m kit I won for the 30m kit that is the subject of this article. I, of course, had already purchased a 40m kit earlier in the Elmer101 project.

PS. For the mods on the SW40+ power increase, if you haven't seen them in any earlier posting of mine, let me know and I'll forward them. One change I need to make to the SW40+ still, is to replace the collector choke on it, since it also heats at power levels approaching 5 watts, though not as much as the SW30+ did. ;-)

72 and good luck,

Gary Surrency AB7MY QRP-L #571 Chandler, AZ (near Phoenix)

You don't need to buy Internet access to use free Internet e-mail.
Get completely free e-mail from Juno at <http://www.juno.com>
Or call Juno at (800) 654-JUNO [654-5866]

Date: Tue, 11 Aug 1998 22:16:23 EDT
From: ADRAMIS@aol.com
To: QRP-L@Lehigh.EDU
Subject: [17351] 10 watt rf power amplifier
Message-ID: <113f9acb.35d0faf8@aol.com>
Mime-Version: 1.0
Content-type: text/plain; charset=US-ASCII
Content-transfer-encoding: 7bit

This past May at Dayton I met A German gentleman Peter Zenker DL2FI, who had a small 10 watt rf power amplifier. that was the size of a book of matches, it used two 2SC1978 transistors and attached to the lid or back of your qrp rig without a heat sink. The amplifier produced 10 watts output with a few millivolts of drive. 100 of these units were sold through the German qrp club and a magazine article appeared in Funkamateure magazine. Does anyone have a copy of this Article? I would like very much to build one or two of these units
Thank You
Angelo Drammissi
K3YUN

Date: Tue, 11 Aug 1998 19:22:34 -0800
From: Ward Hill <w_hill@ns.net>
To: qrp-l@Lehigh.EDU

Subject: [17352] Hot Air Balloon (Sorta QRP)
Message-ID: <103130300b1f6ba359a41@[207.159.15.49]>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

The status of the around the world non stop hot air balloon can be found at the URL below. He has a NASA package aboard which transmits his location/status via satellites. It is a low power package. This is very cool to watch as he progresses through his attempt.

<http://solospirit.wustl.edu/index.html>

72,

Ward

Ward Hill, WA6FUH
Engineer at KOVR, Channel 13 (CBS), Sacramento, CA
<http://www.kovr13.com>
"Eagles may soar, but weasels aren't sucked into jet engines"
Life Member ARRL QCWA #29531 NorCal Zombie #2660 10-10 #27139
QRP-L #1117 AK/QRP #249 QRP ARCI # 9686
w_hill@ns.net
WA6FUH@KM6PX.#NCA.CA.USA.NOAM

Date: Tue, 11 Aug 1998 20:26:32 -0600
From: "Jerry McCollom" <jmc@cnd.hp.com>
To: "'Low Power Amateur Radio Discussion'" <qrp-l@Lehigh.EDU>
Subject: [17353] NW40 + Other Stuff For Sale
Message-ID: <000e01bdc598\$9f1200e0\$38620f0f@fcjmcp.fc.hp.com>
Mime-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Thanks for reading this. I've got a QRP rig + other stuff I want to sell to raise funds for more toys. Hope you don't mind the non-QRP stuff first.

1. US Robotics X2 Modem, upgraded to the ITU V.90 56K standard. \$40 + shipping
2. Modem for PalmPilot (I know I've seen others here mention they're Palm users, so thought I'd offer it here first). I used it twice! This is the

USR modem that fits nicely on the bottom of the PalmPilot. These sell new for \$129, but I doubt I see that. How about \$60 + shipping (or make me an offer -- it's not doing me any good sitting in a drawer)

3. Yamaha WaveTable sound card, ISA, 16-bit SoundBlaster compatible. Don't have specs with me, but I believe it's 32-voice. No problems, just upgraded to a PCI card to free up an ISA slot. \$15/obo

4. NW40 in Homebrew Case. Built from Dan's Small Parts kit and put in a homebrew Radio Shack case. Includes the audio filter Dan included with his kit. It's seen little use. The case is not a work of art, but is lightweight and functional. It has a small amount of drift after initial power on -- Roy Gregson recommends a capacitor change to fix this, but I didn't get around to it. The RIT is not real smooth either, but again, does the job. If interested, I can send you some digital pictures of the rig, inside and out. How about \$70 + shipping?

Per usual, I'm always open to offers, especially if it turns out I'm way out of line on pricing. I suspect most of this will ship for \$3.00 or less Priority Mail from Fort Collins, CO 80525.

72,

Jerry McCollom
WQMC
jmc@cnd.hp.com

Date: Tue, 11 Aug 1998 19:49:02 -0700
From: Ron <rong@slip.net>
To: qrp-1@Lehigh.EDU
Subject: [17354] Heath schematics
Message-ID: <35D1029E.6EF@slip.net>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Does anyone know of a source for Heathkit schematics?

Date: Tue, 11 Aug 1998 20:44:55 -0600 (MDT)

From: Paul Harden <pharden@aoc.nrao.edu>
To: Gary L Surrency <gsurrency@juno.com>
Cc: Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>
Subject: [17355] Re: SW30+: 5 watts output achieved! (LONG)
Message-ID: <Pine.SOL.3.91.980811203239.3432A-100000@zia>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

>Note how I didn't include Gary's text :-)

Gary,
Absolutely excellent work and excellent presentation on getting 5W
from the SW30+ ... much of which can be applied to other rigs as
well. And certainly worth some good public praise, Gary!!!

For those of you who didn't read Gary's post, go back and print it
out right now. It is LOADED with some excellent transmitter
fundamentals and some good work that is problematic in most QRP
transmitter circuits. I can testify that many people have invested
countless hours working on the PA sections of the NC20, 44-Magnum, etc.
to achieve good stability, discovering many of the same things that
Gary presented.

Good work, Gary, and thanks for sharing it.

72, Paul NA5N

Date: Tue, 11 Aug 1998 19:47:16 PDT
From: "DJ Rock" <b2bn@hotmail.com>
To: qrp-1@Lehigh.EDU
Subject: [17356] Morse Test
Message-ID: <19980812024717.12716.qmail@hotmail.com>
Content-Type: text/plain

Simple Short Question:
Will I have to send CW for my morse test, or just recieve it?
KF4ZKN

Get Your Private, Free Email at <http://www.hotmail.com>

Date: Tue, 11 Aug 1998 20:07:22 -0700
From: "KWM" <martins@ccosmo.net>
To: b2bn@hotmail.com, qrp-l@Lehigh.EDU
Subject: [17357] Re: Morse Test
Message-ID: <199808112007220990.01CF8A3B@cosmoaccess.net>

No, I am sorry, You cannot send CW for your morse test.
You will have to go yourself.

Keith

PS: Just kidding. Its receive only.

***** REPLY SEPARATOR *****

On 8/11/98, at 8:01 PM, DJ Rock wrote:

>Simple Short Question:
>Will I have to send CW for my morse test, or just recieve it?
>KF4ZKN
>
>-----
>Get Your Private, Free Email at <http://www.hotmail.com>

Date: Tue, 11 Aug 98 22:12:55 -0600
From: cjcole <cjcole@ames.net>
To: "QRP-L List" <qrp-l@Lehigh.EDU>
Subject: [17358] FCC Proposal
Message-ID: <199808120323.WAA06969@brain.ames.net>
Mime-Version: 1.0
Content-Type: text/plain; charset="US-ASCII"

So I take it that the tech-plus people will have to take the general
written test before they get their new privalges??

Chris

Date: Wed, 12 Aug 1998 03:44:10 -0400
From: "Rich Dailey, KA8OKH" <ka8okh@som-uky.campus.mci.net>
To: qrp-l@Lehigh.EDU
Subject: [17359] Miles per watt with BPSK?
Message-ID: <3.0.16.19980812034329.196fa37c@som-uky.campus.mci.net>

Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

Anybody keeping score on distance/qrp accomplishments
using BPSK. Vic's article in QRPP has lit a lil fire under me...
I feel (yet another) winter project coming on. Check out these
sites -

<<http://www.qsl.net/k0lr/watsbpsk.html>>

<<http://www.ietc.ca/home/bill/bbs.htm>>

...Rich

Rich Dailey, KA8OKH <ka8okh@som-uky.campus.mci.net>
The KA8OKH / KB4NPI Web - <http://www.qsl.net/ka8okh>

Date: Tue, 11 Aug 1998 23:49:55 -0400
From: "CRAIG A REYNOLDS" <KF4AXT@prodigy.net>
To: <qrp-1@Lehigh.EDU>
Message-ID: <01bdc5a4\$44d72220\$f0b648a6@craig-reynolds>
MIME-Version: 1.0
Content-Type: multipart/alternative;
boundary="-----=_NextPart_000_0024_01BDC582.BDC58220"

This is a multi-part message in MIME format.

-----=_NextPart_000_0024_01BDC582.BDC58220
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

Fellas I was wondering if any of you have a used small-tiny Frequency =
Counter for my OHR 20 meter qrp radio? or know where i could get one =
cheap?
Luke

-----=_NextPart_000_0024_01BDC582.BDC58220
Content-Type: text/html;
charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

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<HEAD>

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http-equiv=3DContent-Type>
<META content=3D'"MSHTML 4.71.1712.3"' name=3DGENERATOR>
</HEAD>
<BODY bgColor=3D#ffffff>
<DIV><FONT color=3D#000000 size=3D2>Fellas I was wondering if any of you =
have a used=20
small-tiny Frequency Counter for my OHR 20 meter qrp radio? or know =
where i=20
could get one cheap?</FONT></DIV>
<DIV><FONT color=3D#000000 size=3D2>Luke</FONT></DIV></BODY></HTML>
```

-----=_NextPart_000_0024_01BDC582.BDC58220--

Date: Tue, 11 Aug 1998 23:51:25 -0400
From: "CRAIG A REYNOLDS" <KF4AXT@prodigy.net>
To: <qrp-1@Lehigh.EDU>
Message-ID: <01bdc5a4\$7a990900\$f0b648a6@craig-reynolds>
MIME-Version: 1.0
Content-Type: multipart/alternative;
boundary="-----=_NextPart_000_002B_01BDC582.F3876900"

This is a multi-part message in MIME format.

-----=_NextPart_000_002B_01BDC582.F3876900
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

Also Fellas

Since I am moving into a dorm room with NO space for antennas ..I was =
searching for suggestions on how to build a non-wire 20 meter antenna? =
or buyit has to be real small
Luke

-----=_NextPart_000_002B_01BDC582.F3876900
Content-Type: text/html;
charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

<!DOCTYPE HTML PUBLIC "-//W3C//DTD W3 HTML//EN">

<HTML>

<HEAD>

<META content=3Dtext/html; charset=3Diso-8859-1 =

http-equiv=3DContent-Type>

<META content=3D'"MSHTML 4.71.1712.3"' name=3DGENERATOR>

</HEAD>

<BODY bgColor=3D#ffffff>

<DIV>Also Fellas</DIV>

<DIV>Since I am moving into a dorm room =
with NO space=20

for antennas ..I was searching for suggestions on how to build a =
non-wire 20=20

meter antenna? or buyit has to be real small</DIV>

<DIV>Luke</DIV></BODY></HTML>

-----=_NextPart_000_002B_01BDC582.F3876900--

Date: Wed, 12 Aug 1998 00:21:38 -0400

From: Tracy@bytemark.com (Tracy)

To: "QRP-L" <qrp-l@lehigh.EDU>

Subject: [17362] RE: FCC Proposal

Message-ID: <000801bdc5a8\$b2fc51e0\$6f211ad1@titan>

MIME-Version: 1.0

Content-Type: text/plain;

charset="iso-8859-1"

Content-Transfer-Encoding: 7bit

> So I take it that the tech-plus people will have to take the general

> written test before they get their new privileges??

I thought it looked like they were going to be grandfathered ...

All in all, it's not the gloom and doom I've been led to believe. I sat and read every word of it, didn't understand some, and thought it will be OK if it goes through as suggested. I'll be sending in a few comments about a detail or two.

Did you note the part at the bottom, almost requiring reduced power? That is new to me. Still, rule number one, 'minimum power required.' We fit that one!

Tracy N4LGH

QRP-L #1453

Date: Tue, 11 Aug 1998 22:25:13 -0600
From: "David Ek" <ekdave@earthlink.net>
To: <qrp-l@lehigh.EDU>
Subject: [17363] SW+20 frequency range mod
Message-ID: <000701bdc5a9\$34525dc0\$ecac85ce@davidek>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Gang,

Those with SW+20's might be interested: tonight I fiddled with the value of C8 to increase the tuning range on my SW+20 (as it says in the manual). I found that adding a 15 pF NPO cap in parallel increased the range to about 64 kHz. A 22 pF cap increased it to about 77 kHz, and 39 pF increased it to about 109 kHz. In all cases it was necessary to modify the value of C7 to put the range where I wanted it (14 - 14.060 MHz or so). I don't expect that your value for C7 will be the same as mine so I won't report it here.

I stuck with the 64 kHz range. I added the extra capacitor by soldering it to the bottom of the board (lightly, so I could easily remove it during experimenting). I soldered the capacitors (I used three in parallel) for C7 to the bottom, as well.

Listening to the signal in my '706 confirms a nice clean tone, although there appears to be some drift associated with warmup (around 300 Hz or so, I'd estimate). Not unusual, at least in my very limited experience.

This is really a sweet little rig, IMHO. Next I'm going to try adding the 100K resistor in parallel with the tuning pot to linearize the range, like it's written in "QRP Power". But right now it's time for bed.

72 de Dave AB0GO

Date: Wed, 12 Aug 1998 00:38:16 -0400
From: "CRAIG A REYNOLDS" <KF4AXT@prodigy.net>

To: <qrp-1@Lehigh.EDU>
Message-ID: <01bdc5ab\$06096380\$72246420@craig-reynolds>
MIME-Version: 1.0
Content-Type: multipart/alternative;
boundary="-----_NextPart_000_0022_01BDC589.7EFF64A0"

This is a multi-part message in MIME format.

-----=_NextPart_000_0022_01BDC589.7EFF64A0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

I am interested in mini morse keys (straight,paddles) and I know a few =
companies that make them but I bet there are some you guys can suggest? =
Also I used to know of a british ham who made code keys and mini =
straight keys and paddles anybody know who I am talking about and can =
give me a website?
Luke

-----=_NextPart_000_0022_01BDC589.7EFF64A0
Content-Type: text/html;
charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

<!DOCTYPE HTML PUBLIC "-//W3C//DTD W3 HTML//EN">
<HTML>
<HEAD>

<META content=3Dtext/html;charset=3Diso-8859-1 =
http-equiv=3DContent-Type>
<META content=3D'"MSHTML 4.71.1712.3"' name=3DGENERATOR>
</HEAD>
<BODY bgColor=3D#ffffff>
<DIV>I am interested in mini morse keys=20
(straight,paddles) and I know a few companies that make them but I bet =
there are=20
some you guys can suggest? Also I used to know of a british ham who made =
code=20
keys and mini straight keys and paddles anybody know who I am talking =
about and=20
can give me a website?</DIV>
<DIV>Luke</DIV></BODY></HTML>

-----=_NextPart_000_0022_01BDC589.7EFF64A0--

Date: Tue, 11 Aug 1998 23:24:22 -0600 (MDT)
From: Paul Harden <pharden@aoc.nrao.edu>
To: unlisted-recipients;; (no To-header on input)
Cc: Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>
Subject: [17365] RE: FCC Proposal
Message-ID: <Pine.SOL.3.91.980811230842.7836B-1000000@zia>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

On Wed, 12 Aug 1998, Tracy wrote:

... Regarding the FCC proposals ...

> All in all, it's not the gloom and doom I've been led to believe.

I agree. I read the entire thing, but need to read it again to ensure I understand the pertinent points. Sure, they are streamlining the process, in part by eliminating the Novice and Tech+ tickets, but all in all, I think it will preserve HF hamming as we know it. They're not eliminating CW, not dumbing-down the license requirements, seem to be seriously concerned about what HAMS have to say (not necessarily just the ARRL), and concerned about how to best utilize the spectrum (like what to do with the "old" Novice bands). I for one would like to see them converted to CW only ... and I mean that dit and dah stuff, not shared with Klingsons. And wouldn't it be great if we could get them to pass even a 50W limit on some of the spectrum?

> Did you note the part at the bottom, almost requiring reduced power?

Yes ... the FCC did hint fairly strongly that reduced power in parts of the spectrum may be needed. Since they also expressed total frustration themselves at how to regulate certain activities (and I assume they were referring to the now famous crap going on 75M SSB), couldn't help but wonder if they don't see cutting back the maximum power requirements to be a partial solution. Frankly, with most commercial rigs running around 100W output, I don't see why any more power than that needs to be allowed. Going from 100W to 1KW is the same effect as going from 5W to 20W. Big deal, couple of S-units.

I'm rather encouraged by the FCC proposal from a QRP/CW point of view.

72, Paul NA5N

Date: Wed, 12 Aug 1998 01:33:27 -0400
From: "CRAIG A REYNOLDS" <KF4AXT@prodigy.net>
To: <qrp-1@Lehigh.EDU>
Subject: [17366] MINI PADDLES AND MINI STRAIGHT KEYS
Message-ID: <01bdc5b2\$bb7e2960\$88b648a6@craig-reynolds>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Fellas ,
I am looking for a nice mini straight key or paddle and also I was wondering
if anybody knows the name of the british ham who makes tiny keys?
Luke

Date: Tue, 11 Aug 1998 23:04:50 -0700 (PDT)
From: Monte Stark <ku7y@dri.edu>
To: CRAIG A REYNOLDS <KF4AXT@prodigy.net>
Cc: Low Power Amateur Radio Discussion <qrp-1@lehigh.EDU>
Subject: [17367] Re: your mail
Message-ID: <Pine.SOL.3.96.980811230207.20631A-1000000@vortex>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

Hi Luke,

The OLD handbooks used to have a car AM radio telescoping
antenna mounted on a wooden block using a angle of about
45 degs.

It was base loaded with an air wound coil and included a
matching system.

Open a window and extend the antenna!

The longer you can make it the better off you are but
always remember that ANY antenna is better than NO antenna!

cul,

73, Ron, SOWP 5545M,

.....KU7Y.....ARCI #8829.....Monte "Ron" Stark.....
....ku7y@sage.dri.edu.....Washoe Lake, Nevada.....

....QRP-L #17...ARS #49...NorCal #330.....NRA LIFE.....

Date: Wed, 12 Aug 1998 02:18:35 EDT
From: ARDUJENSKI@aol.com
To: qrp-1@Lehigh.EDU
Subject: [17368] COIL-LESS SLV A SUCCESS!
Message-ID: <79cc5d58.35d133c4@aol.com>
Mime-Version: 1.0
Content-type: text/plain; charset=US-ASCII
Content-transfer-encoding: 7bit

Well it works. Using the BLACK WIDOW fishing pole to support a 20 ft vertical dipole and 300 ohm feed worked like a champ. The SWR was about 2 to 1 but made a contact on 40M first try. It was Earl VE6EWM another fellow QRPper. I don't have comparisons with other antennas yet but knowing it gets out (and at ground level) was enough to make me feel good.

Experimenting a bit and reading W4RNL's website for ideas makes this a super hobby. (Thanks LB)

The nice thing about this version of the SLV is NO RADIALS. But further tests are needed before I throw the coil and radials out. Need to experiment with the feedline length also.

Alan KB7MBI

Date: Tue, 11 Aug 1998 23:28:12 -0700
From: Conrad <radman@best.com>
To: "'Low Power Amateur Radio Discussion'" <qrp-1@Lehigh.EDU>
Subject: [17369] "K2: First User's Review" ... (what fun!)
Message-ID: <01BDC57F.B5B68C80.radman@best.com>
MIME-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
Content-Transfer-Encoding: 7bit

August 10, 1998

"K2: First User's Review"

by Conrad Weiss - NN6CW

Wayne Burdick and Eric Swartz pulled names out of a hat and I got called to field test K2, Revision - "XA," Serial # 0001 - Wayne's personal K2. Other field testers, unknown to me, would also take turns running the rig through various torture tests. All of the field test comments would be tallied up and any deficiencies in the rig could be corrected prior to K2, Revision - "XB" - the first 50 -100 kits to be released at the end of Summer, 1998. Elecraft's strategy would hopefully lead them to a near-perfect K2 launch.

My K2 included everything a production unit would have except the 10 and 12 meter band components - no time to install them for my field test. The internal ATU and Noise Blanker option boards were still at prototype level, and the SSB option board was being tweaked, so I didn't get to test these options. However, the 160 Meter kit was installed in my K2, as well as the internal 2.9Ah gel cell. I was asked to evaluate it as a fully functional 160-15 meter CW transceiver - testing all of the normal "core functions" of the rig.

I met Wayne at his lab, reviewed a 25-page preliminary operating manual, received a 30 minute crash-course in test driving the K2 and then I was on my own. Wayne was flying out of town and Eric would serve as my safety net should I get in over my head or hit something really serious - like smoke! I packed the K2 in my padded shoulder bag, Wayne wished me 'good luck' and I took off to start field testing.

First Impressions:

>From the moment I pushed the K2's power button -- and "Elecraft" appeared on the LCD as the rig's microprocessor ran its self-diagnostic, I was impressed that the K2 is not your average HF ham transceiver. It doesn't have to be connected to an external power supply or battery! I connected a short piece of random wire to the antenna jack and carried the rig around my house listening to WWV on 10.00 Mhz. Next I disconnected the gel cell and ran the K2 off of a 9V battery while listening to WWV. I heard that Wayne performed this demo during Field Day '98 and I had to see - it really works!

Then it was time to get down to serious business. I plugged

my headphones into the front panel, plugged my paddles into the rear jack and decided to go with my 40 meter vee through my LDG QRP ATU with a Diamond SWR/Power meter. Later I would switch to my Mosley TA-33jr and do some work on 15 and 20 meters. I pushed the K2's TUNE button and within a second the LDG had the K2 dialed-in at 1.1:1 SWR. The K2 / LDG combination worked so well that they stayed together for all of my testing on both antennas and all bands.

I listened around 7.040 MHz and found numerous CW stations to test the K2's RX filters. Wayne had preset the crystal filter band-widths at roughly 400Hz, 800Hz and 1500Hz. The sensitivity of the K2 receiver and its low noise floor makes it fun to go after the "weak ones." The K2 is PLL synthesized -- no DDS spurs to get in the way of things -- and I soon found myself going after the weakest of the weak stations. It's a very quiet receiver - well suited for QRP work. There were times when I missed my Pass-Band Tuning or IF shift that I enjoy on my bigger JA rigs. After I had dialed in the 400 Hz RX filter I sometimes found myself carefully working the RIT to bring the signal up a bit. My first impressions of the K2's receive section were extremely positive - it's lively, sensitive and fun to drive! Excellent main tuning feel, selectable tuning steps (10Hz, 100Hz or 1kHz per step) and RIT combine with the nicest AGC circuitry I've ever used. I would rate the receive section among the best I've ever used even without Pass-Band Tuning or IF shift.

Designed by CW ops -- for CW ops:

Elecraft says, in their preliminary manual, that the K2 was designed by a couple of serious CW operators for CW operation. Right they are! The K2 offers a CW reverse mode which when combined with the three RX filter settings yield six CW filter presets. I used XFIL and CW RV extensively in my listening tests. Tuning the agile little K2 around the 20 and 40 meter bands reminded me of driving a sports car around a twisting mountain road - it's agile and very playful! The K2 tempts you to dig a little deeper for that weak signal and amazingly it usually pops out of the noise with the 400 Hz filter setting - ready for a QS0! I became so mesmerized with the K2 receiver the first night of testing, that I found myself just tuning around the bands, playing with the filters and copying CW in my head. I woke up at 3:00am with my little Kenwood headphones still on? I'd fallen asleep listening to a long QS0!

The next morning I drilled into the K2 Menu mode. The menu is used for settings that are not changed very often. You can set CW sidetone level, pitch, QSK delay, CW input selection (paddle / reverse / hand key), iambic mode (A or B), CW speed range (Low: 9-25 wpm or Hi: 10-40 wpm), backlight (on/off), S-meter (dot or bar graph), AGC decay (fast or slow), Hi Intercept Point (on/off), Receive Ant (on/off - per band), ATU (on/off), PA (power amp on/off), Calibrate Menu and PF1/PF2 - the programmable function keys.

The PF1/PF2 keys allow you to "short-cut" the K2 menu and assign two "personal" functions of your choice to these keys, eg: PF1 = AGC (on/off) and PF2 = CW speed (hi/low).

In addition, CW 'spot' and "autotracking transmit offset" are standard issue.

Battery Management in the K2:

It's not surprising a transceiver that Wayne Burdick has co-designed would be easy on the gel cell. What's interesting is how many ways the K2 can be configured to conserve battery and maximize performance. In the menu mode, the user can toggle on/off: backlight, AGC, HiIP, and S-meter (bar/dot). This results in a systematic reduction of standby receive current - from a maximum of 250mA, in my test K2, to a minimum of 150mA. But, the news gets better! In the "XB" build, Elecraft will abandon the non-latching relays (for band-switching, etc) in favor of latching relays. This eliminates the holding current for the relays -- up to 100mA depending on the number of relays energized, and further decreases standby receive current to around 100mA. Elecraft is also evaluating a feature to allow user switching between "performance" mode and "battery save" mode - without going thru the K2 menu - nice touch! This will allow the operator who wants to grab the K2 from the home QTH and head for the field a simple key combination to decrease receive current. It's a very intuitive means of conserving battery life.

Size and weight:

How much does it weigh? My test K2, with internal battery, tipped the scales at 5.66 pounds. With the internal ATU, NB board, optional filters and SSB option the K2 should still be around six pounds. The size is 2.9" X 7.8" X 8.2,"

making it comparable to the smaller JA imports. The big difference is that it's fully self-contained with its own battery, ATU and multi-message keyer. Elecraft is even considering a stylish field bag as an option to allow easy "grab-and-go" operation for fast set-up time in the field. I carried it around in a lightweight computer bag - even took it to a NorCal meeting to "loan" it back to Eric Swartz for a demonstration - it's very portable and easy on the shoulder. It's very similar to carrying a notebook computer.

QSOs, QSOs, and more QSOs:

I decided I would dedicate my first QSO to the Novices and Tech Pluses. The 40 meter sub-band offers such miserable band conditions it demands the best of any receiver. The K2 performed extremely well amidst the usual cacophony of foreign broadcast and punishing QSB. I answered the weakest CQ I could hear and got him the first time. I went on to work a couple dozen Ns and Ts from all over the US. I called a few CQs and generally got someone on the first or second call. Down the band at 7.040 MHz I found higher speed ops - tightly packed -- and good test conditions for the adjacent signal work. The K2 front-end does a great job - it's very tough. I never got buried or found my self in a QSO that I couldn't manage with the filters at hand. More QSOs on 80,40 & 20 meters at higher speeds inspired my confidence that the K2 is very capable of running with the bigger dogs. QSK operation and the internal keyer were superb. Not once did I reach for my CMOS-3 - I used the K2 internal keyer (in iambic B mode, equivalent to Super CMOS-3) through the entire field test - very nice. This really is a great CW rig!

The Bottom Line:

I thrashed the K2 through a lot of real world QRP operation for a couple of days. I never encountered any anomaly in normal operation - no troubles or smoke to report. The rig was so intuitive I never even called Eric for technical support! All of this points to a K2 design that's very mature. It was very solid when Wayne gave it to me and it was very solid when I handed it off to the next field tester.

About a year ago at Pacificon '97, Wayne and Eric promised us the K2, and the time has now come. Soon they should be ready to ship K2-XB. They've worked unimaginable hours to

bring this rig to market. Is it the rig for me? Yes, it is! There is nothing quite like the K2. Once you've driven a K2 for a few days it's pretty hard to go back to a QRP mono-bander or even the old HW-9. While the K2's receiver won't quite out-perform my pricey Icom-765, it outmaneuvers everything else in my shack - and, it's certainly more versatile as a QRP rig than my Kenwood TS-50. Is it worth the money? Yes, I believe it is, simply because it has no direct competitors in the \$600 class.

It's a big check to write but if you like QRP - you'll love K2!

Standard disclaimer - not related to Elecraft.

Email Wayne or Eric at: radios@elecraft.com
Elecraft URL: <http://www.elecraft.com/>

Date: Wed, 12 Aug 1998 07:44:28 +0100 (BST)
From: John Fletcher <johnf@innotts.co.uk>
To: "Low Power Amateur Radio Discussion" <qrp-1@lehigh.EDU>
Subject: [17370] 4.7k/4k7
Message-ID: <199808120644.HAA11753@carlton.innotts.co.uk>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

Hello all,

I believe the use of the n/m/k/M in place of the decimal point was adopted because of the ease with which the dot can be "lost" in printing, especially after repeated photocopying. Thus 4.7 k can become 4 7 k. Also, as photocopiers sometimes "add" dots and spots to the print, extra decimal points might appear where they're not wanted. Using the letter as the separator removes any ambiguity. (Photocopiers and their predecessors weren't nearly as good as they are now.)

73 all de John G4EDX

Date: Tue, 11 Aug 1998 19:48:46 -0700
From: "Barry L. Geipel" <bgeipel@primenet.com>
To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>
Subject: [17371] Re: FCC Proposal
Message-ID: <006501bdc59b\$cd4fbe40\$4434d4cc@bgeipel.pom.primenet.com>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

I am very confused by what I read. Right now I am a Tech-plus
who has passed the General written. Where will I stand with the
new setup.

When I read the conclusion, it looked like only Novices were
grandfathered. What will happen to me???

73
Barry - KF6RDI

-----Original Message-----
From: cjcole <cjcole@ames.net>
To: Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>
Date: Tuesday, August 11, 1998 8:15 PM
Subject: FCC Proposal

>So I take it that the tech-plus people will have to take the general
>written test before they get their new privelges??
>
>Chris
>
>

Date: Wed, 12 Aug 1998 08:16:31 -0400
From: "Peter C. Buehner" <kc8er@harborcom.net>
To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>
Subject: [17372] Re: FCC Proposal
Message-ID: <003001bdc5eb\$0ae1d280\$284c44ce@ppp.harborcom.net>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

-----Original Message-----

From: Tracy <Tracy@bytemark.com>
To: Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>
Date: Wednesday, August 12, 1998 12:12 AM
Subject: RE: FCC Proposal

The TECH PLUS people already TOOK the General Written test! They just hadn't passed the 13 WPM code test yet!

> So I take it that the tech-plus people will have to take the general
> written test before they get their new privileges??

I thought it looked like they were going to be grandfathered ...

All in all, it's not the gloom and doom I've been led to believe. I sat and read every word of it, didn't understand some, and thought it will be OK if it goes through as suggested. I'll be sending in a few comments about a detail or two.

Did you note the part at the bottom, almost requiring reduced power? That is new to me. Still, rule number one, 'minimum power required.' We fit that one!

Tracy N4LGH
QRP-L #1453

Date: Wed, 12 Aug 1998 08:33:45 -0400
From: "Peter C. Buehner" <kc8er@harborcom.net>
To: "Paul V. Gregory" <afpgreg@state.me.us>
Cc: <qrp-l@lehigh.EDU>
Subject: [17373] Re: FCC Proposal
Message-ID: <004501bdc5ed\$82caed20\$284c44ce@ppp.harborcom.net>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Hi Paul,

Yes, you're right! I just woke up and read Tracy's comment, and for some inexplicable reason I was thinking of something else. Sorry about that!

...Pete

-----Original Message-----

From: Paul V. Gregory <afpgreg@state.me.us>
To: kc8er@harborcom.net <kc8er@harborcom.net>
Date: Wednesday, August 12, 1998 8:27 AM
Subject: Re: FCC Proposal

Not true.

>-----Original Message-----

>From: Tracy <Tracy@bytemark.com>
>To: Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>
>Date: Wednesday, August 12, 1998 12:12 AM
>Subject: RE: FCC Proposal

>

>

>

>The TECH PLUS people already TOOK the General Written test! They just
>hadn't passed the 13 WPM code test yet!

>

>

>

>

>> So I take it that the tech-plus people will have to take the general
>> written test before they get their new privileges??

>

>I thought it looked like they were going to be grandfathered ...

>

>All in all, it's not the gloom and doom I've been led to believe. I sat and
>read every word of it, didn't understand some, and thought it will be OK if
>it goes through as suggested. I'll be sending in a few comments about a
>detail or two.

>

>Did you note the part at the bottom, almost requiring reduced power? That
is
>new to me. Still, rule number one, 'minimum power required.' We fit that
>one!

>

>Tracy N4LGH
>QRP-L #1453
>
>
>
>
>

Date: Wed, 12 Aug 1998 08:38:16 EDT
From: n4so@juno.com (charles k brown)
To: qrp-l@Lehigh.EDU
Subject: [17374] HTML Coax Repairs
Message-ID: <19980812.123338.5151.4.n4so@juno.com>

Juno users or those without direct Web access can use the following
command to retrieve the HTML file mentioned on 8/11 concerning EMERGENCY
COAX REPAIRS.

GET -t -c 80 <http://www.qsl.net/ke3fl/txt/FIX-COAX.TXT>

Reply to: w3gate@gmd.de

Content-Type: text/plain
Content-Description: <http://www.qsl.net/ke3fl/txt/FIX-COAX.TXT>

ARES/RACES Emergency Coax Repair During a real emergency we will do doubt
take much of our emergency equipment with us, including extra lengths of
coax

----- EDITED FILE

Ken/ N4SO/ Mobile, AL EM50tk

You don't need to buy Internet access to use free Internet e-mail.
Get completely free e-mail from Juno at <http://www.juno.com>
Or call Juno at (800) 654-JUNO [654-5866]

Date: Wed, 12 Aug 1998 08:33:17 -0500

From: "Kevin Muenzler WB5RUE" <wb5rue@stic.net>
To: "'Low Power Amateur Radio Discussion'" <qrp-1@Lehigh.EDU>
Subject: [17375] RE: FCC Proposal
Message-ID: <19980812133316908.AAA182@muenzlerk>

> -----Original Message-----
> From: owner-qrp-1@Lehigh.EDU
> [mailto:owner-qrp-1@Lehigh.EDU]On Behalf Of
> Barry L. Geipel
> Sent: Tuesday, August 11, 1998 9:49 PM
> To: Low Power Amateur Radio Discussion
> Subject: Re: FCC Proposal
>
> When I read the conclusion, it looked like only Novices were
> grandfathered. What will happen to me???
>
> 73
> Barry - KF6RDI
>

When it says that all Novices will be grandfathered what does that mean? Does it mean that they will take on the privileges of some other class or they will remain Novices "forever" or until they upgrade.

Kevin, WB5RUE

Date: Wed, 12 Aug 1998 08:40:37
From: Roger Braker <msebrakr@telepath.com>
To: Ted Kell <tkell@blackhole.nyx.net>
Cc: qrp-1@Lehigh.EDU
Subject: [17376] Re: Spell checker
Message-ID: <3.0.5.16.19980812084037.4f27480a@telepath.com>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

Ted (and others who had problems with the spell check site), I'm not sure what the problem is but I think it has something to do with CGI and all that stuff. That is the address that I pasted from the spell checker site. In this watcher thing, you should see a box where you do a

search. enter the words eudora spell checker and you should get the right screen. Hope that helps.

73,
Arnold kd5ch

At 07:39 AM 8/12/98 -0500, you wrote:

>This leads to something called "Watcher". Where is the spell1 checker?
>

>Ted
>KC5CUW
>

>-----
>

>----- Forwarded message -----

>From: Roger Braker <msebrakr@telepath.com>
>To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>
>Date: Mon, 10 Aug 1998 14:13:27
>Subject: spell checkers
>Message-ID: <3.0.5.16.19980810141327.472f87be@telepath.com>
>

>Hi Guys,

>Someone gave me a link to a spell checker for eudor. Here is the link
>right here.
>

>[http://www.hotfiles.zdnet.com/cgi-bin/texis/swlib/hotfiles/info.html?fcod](http://www.hotfiles.zdnet.com/cgi-bin/texis/swlib/hotfiles/info.html?fcod=e=0)
>e=0

>000RD
>

>See yall later.
>

>73,
>Arnold kd5ckh
>

>Remove the blackhole to reply..
>
>
>

Date: Wed, 12 Aug 1998 09:52:01 -0400
From: Paul Helbert <phelbert@rica.net>
To: gsurrency@juno.com, "mikemo@ibm.net" <mikemo@ibm.net>, Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>
Subject: [17377] Elmer 101: more questions
Message-ID: <35D19E01.295B0883@rica.net>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Gary's post on the SW30+ is a keeper. I'll print it out and keep it with the Elmer 101 stuff. Please e-mail me the other stuff you mentioned on the SW40+ mods.

I have run into another problem which I am guessing at (for lack of instrumentation). I replaced the voltage regulator with LT1121 (after several tries with the LP2951 at 7v which seemed still too current hungry and a bulky package with all its resistors and caps). Last night I worked a fellow in New Jersey at what I thought was about 7.040+ only to find that we had been at 7.028+/- . I also found that the range of frequencies I could tune had contracted considerably and that I could not get up to 7.040 or anywhere near it. My guess is that the lower Vr (five volts instead of 7.4 volts available to the varactor was behind the problem. Does this seem reasonable?

Anyhow I fixed it by increasing C8 to 150 (NP0 ceramic...should I have used the monolithic one in the kit?), removing C7 and remeasuring the frequency limits, then selecting a new C7. I now can tune 7.005 to 7.048.

I guess I should retweak the transmitter after this messing around?

I do not have any way of checking accuracy of power readings. My watt meter and RF probe are both uncalibrated against any standard, but I have checked against a couple of 20 watt meters and do not think I am getting even a watt out of this rig. Once in a while it jumps up to maybe 20 times the usual level. (Usual level indicates 0.25 watts... abnormal level 5 or 6 watts?) I presume this is the sort of thing you were seeing in your rig while you were pushing it toward 5 watts. I do not see this happen while testing into a dummy load. Relative power into the dummy load seems very low. My antenna is an 80 meter loop at about 40 feet. Tuner is Ten Tec 238. I use my Autek RF-1 to preset the system to Z=50 ohms (SWR around 1.8). The rig behaves as if on the dummy load. I notice that any adjustment of the tuner causes an indication of more forward power. It seems to maximize at about Z= 25 to 30 ohms at an indication of about 1 watt. Somewhere while doing this tuning it sometimes breaks into the much higher output. I presume this

is not good?

I love the ease with which this board can be removed from Dave's enclosure. Sure am glad I made the antenna lead three inches long!

Hope to hear all you all (plural of you all) tonight,

Paul, Wv3j in The Shenandoah Valley of Virginia

Date: Wed, 12 Aug 1998 09:56:27 -0500 (EST)
From: "James C. Owen, III" <owen@piper.eeel.nist.gov>
To: qrp-1@Lehigh.EDU
Subject: [17378] RE: FCC Proposal
Message-ID: <35790.owen@piper.eeel.nist.gov>

In message Wed, 12 Aug 1998 08:33:17 -0500,

>> When I read the conclusion, it looked like only Novices were
>> grandfathered. What will happen to me???

> When it says that all Novices will be grandfathered what
> does that mean? Does it mean that they will take on the
> privileges of some other class or they will remain Novices
> "forever" or until they upgrade.

To the ones that have asked the above question. Maybe you don't have the FCC proposal and are going by other opinions but in the FCC proposal it doesn't say anything about grandfathering. What it does say is "Novice and TechPlus licensees would retain CURRENT operating privileges". So what you have now is what you'll keep but no new Novice and Tech+ licenses will be issued.

72 Jim K4CGY qrp-1 #72

Date: Wed, 12 Aug 1998 10:02:34 -0500 (EST)
From: "James C. Owen, III" <owen@piper.eeel.nist.gov>
To: qrp-1@lehigh.EDU
Subject: [17379] RE: FCC Proposal
Message-ID: <36155.owen@piper.eeel.nist.gov>

> To the ones that have asked the above question. Maybe you don't have the

> FCC proposal and are going by other opinions but in the FCC proposal it
> doesn't say anything about grandfathering. What it does say is "Novice
> and TechPlus licensees would retain CURRENT operating privileges". So
> what you have now is what you'll keep but no new Novice and Tech+
> licenses will be issued.
>

And I should have added that the 5 WPM code requirement would be dropped
since there is no more novice and Tech +. The first code requirement to get
on HF would be the general requirement, 13 WPM.

72 Jim K4CGY

Date: Wed, 12 Aug 1998 07:29:41 +0000
From: Roger Hightower <n7kt@earthlink.net>
To: Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>
Subject: [17380] FCC Proposal
Message-ID: <35D14465.CB49498B@earthlink.net>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Guys, let's not get into a long thread here, especially since most of
the comments I have read on the list have been incorrect.

Please READ the NPRM. It's the only definitive document on the subject.
Some magazine article or newslane article or some other ham's comments
are generally not correct.

There is some discussion of grandfathering Novices in the document.
There is not a firm definition of code speeds in the document. In
every case, the FCC is asking for comments, and you have until December
1998 to make those comments. To the FCC, please, as discussed in NPRM.

This proposal is not the end of the world for ham radio, but may well be
the end of the List if you clutter it up with discussion.

--
72/73, de Roger, N7KT - QRP-L #62 - Mesa, AZ

Date: Wed, 12 Aug 1998 16:43:05 +0200
From: "Peter_dl2fi" <Peter_DL2FI@CSI.com>

To: "'Internet Liste via PoP3'" <qrp-1@Lehigh.EDU>
Subject: [17381] RE: 10 watt rf power amplifier
Message-ID: <000001bdc600\$08a6f120\$e63de8c3@zenkerpn>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Hi Angelo and all QRP friends

The article was in the QRP-Report and it is still translated and will be sent to QRPP and QRP-Quarterly editors soon. The PA will be available by the FUNKAMATEUR internet shop very soon (<http://www.funkamateur.de>) today I did some measures with my SIERRA and the new PA:

1.8	8.2 Watt out
3.5	6.8 Watt out
7.0	6.8 Watt out
10.1	6.9 Watt out
14	7.1 Watt out
18	7.2 Watt out
21	6.2 Watt out
28	6.2 Watt out

Voltage was 12.8 Volt during transmit

All measured with a fresh calibrated baIRD Wattmeter. I made NO other mods to the SIERRA then removing the old PA(Transistor, Zenerdiode, L10), feeding the PA by a piece of RG174 from the former PA-base transistor (480hm) and using the old original LPFs of the SIERRA. By the way, I am just back from vacation and did not realign the band modules although i didnt handle them very friendly the last four weeks.

because I am QRP only I adjusted the power to 5W out before I measured the spurious and harmonics with an HP Analyzer: ALL are down at least -55 dBC (below carrier)

With maximum power on some bands some harmonics came up, the absolute worst was -35dBC

This past May at Dayton I met A German gentleman Peter Zenker DL2FI, who had a small 10 watt rf power amplifier.that was the size of a book of matches, it used two 2SC1978 transistors and attached to the lid or back of your qrp rig without a heat sink.The amplifier produced 10 watts output with a few millivolts of drive. 100 of these units were sold through the German qrp club and a magazine article appeared in Funkamateure magazine . Does anyone have a

copy
of this Article? I would like very much to build one or two of these units
Thank You
Angelo Drammissi
K3YUN

Date: Wed, 12 Aug 1998 23:50:16 +0900
From: "Jim C" <jimc@msw0.attnet.or.jp>
To: <qrp-1@Lehigh.EDU>
Subject: [17382] memory w/keyers
Message-ID: <005201bdc600\$8556cd80\$751a4ca5@jim-s-computer>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Hi, I am new to HAM (2 yrs.) but have steadily gravitated towards CW and QRP. I just finished my first QRP kit (SST 20) and I will be buying a keyer kit soon. My question is : "How do experienced Hams use the memory functions on keys?" I have decided to buy a kit with no memory. I want to do all the sending when I operate. For one, I need the practice and secondly I don't understand why you would not want to carry out your own QSO personally. Is this function used for contests or ?....
TNX

Jim Crites
7J7ACM
Misawa Air Base
Japan

Date: Wed, 12 Aug 1998 11:58:18 -0400
From: "Jim Kortge, K8IQY" <jokortge@mci2000.com>
To: Charles Almind <calmind@algorithms.com>
Cc: qrp-1@lehigh.EDU

Subject: [17383] Re: ELECTRONIC WORKBENCH
Message-ID: <3.0.1.32.19980812115818.006fe058@mail49.mci2000.com>
MIME-version: 1.0
Content-type: text/plain; charset="us-ascii"

Gang...I'm posting this because I thought there may be
general interest from qrp-l members. Hit delete now
if PSPICE isn't your thing!

At 01:55 AM 8/12/98 -0700, Charles Almind wrote:

>Dear Jim,
>I was reading your request for information on EW on QRP-L. Do you know
how I can get a demo version of EW or PSpice or any other simulation software?
>Thanks.
>

Hi Charles, thanks for dropping by. You can download a
demo copy of EWB from their web site. Their URL is
<http://www.interactiv.com>. I bought the personal version
and it is quite good. It was/is on special until Aug 14th.
I bought the complete package including the PC board
layout.

One used to be able to get the "student version" of
PSPICE from MicroSim, but they were bought out by OrCAD
and I don't know if the demo disk they sent me is useable
or not. I think it is much more crippled than the
MicroSim version I have used. PSPICE is also available
from Univ of Cal, Berkeley (sp?). They are the originators
of the code and maintain the official source code. It
is written in C or C++ and can be compiled and run on
virtually any machine. Chuck Adams has compiled it for
the SGI workstation, and I believe also had a source for
an already compiled version that ran on the PC.

You also might want to check out the book "MicroSim PSPICE
and Circuit Analysis" by John Keown. This is a very
good book on running PSPICE and circuit simulation basics.
And, it had a copy of MicroSim PSPICE (CD-ROM) included.
That may be the best way to get a copy.

Hope the info is useful. Happy simulating. Let me know
what you end up doing.

72 and kind regards.....Jim Kortge, K8IQY

Date: Wed, 12 Aug 1998 10:10:26 -0600
From: "Jerry McCollom" <jmc@cnd.hp.com>
To: "'Low Power Amateur Radio Discussion'" <qrp-1@Lehigh.EDU>
Subject: [17384] RE: NW40 + Other Stuff For Sale
Message-ID: <000301bdc60b\$b8389de0\$38620f0f@fcjmcp.fc.hp.com>
Mime-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Wow, that was quick! All is sold except:

3. Yamaha WaveTable sound card, ISA, 16-bit SoundBlaster compatible. Don't have specs with me, but I believe it's 32-voice. No problems, just upgraded to a PCI card to free up an ISA slot. \$15/obo

72,

Jerry McCollom
W0MC
jmc@cnd.hp.com

Date: Wed, 12 Aug 1998 12:16:14 -0400 (EDT)
From: Paula Bailey <pmbail01@ox.slug.louisville.edu>
To: Kevin Muenzler WB5RUE <wb5rue@stic.net>
Cc: Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>
Subject: [17385] RE: FCC Proposal
Message-ID: <Pine.LNX.3.96.980812120019.20042B-100000@ox.slug.louisville.edu>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

On Wed, 12 Aug 1998, Kevin Muenzler WB5RUE wrote:

> When it says that all Novices will be grandfathered what
> does that mean? Does it mean that they will take on the

> privileges of some other class or they will remain Novices
> "forever" or until they upgrade.

As I read the statement:

The FCC will basically not be issuing any *new* Tech+ or Novice licenses. Those what already have their Tech+ or Novice ticket can still upgrade or renew their licenses, though.

A few of my comments on reading the proposal:

Offhand--I did note that the FCC is still taking comment on required code speed. The way it looks, they won't be dumbing down the written exams and they won't change the name, but they *may* end up changing the code speed for each level. (In fact, I would be extremely surprised if they didn't; if the proposal goes through and uses the current standards, the entry level license for HF work will be the General which requires a 13wpm exam. I expect as a direct result of this, the General license will have its code requirement lowered to 5wpm. I also half-expect the 20wpm exam to go bye-bye, too; reducing the Extra requirement to 13wpm *was* specifically mentioned.)

It also looks, offhand, like the FCC is taking direct comment on the questions used and whether they relate to ham radio, etc. (If anything, I expect they may require *more* of a grasp on basic facts.) At least one proposal was made for consideration of including other modes besides Morse in a test and/or showing how you can operate a real ham radio rig [I think these requests may have been denied, though--need to double-check, seeing as I was reading the rules at 3 am in the morning :)]

The thing about no more RACES licenses worried me, except when I got to reading that they really haven't issued new once since the early 80's. They're not phasing out RACES; they're phasing out the special licenses.

On the Novice bands, I remember reading they are taking comment on what to do with them, and they are thinking of basically setting the old Novice/Tech+ bands up as low-power bands. I also *think* I saw something about power reduction across the board.

On stats--I know there weren't many Novice licenses being issued. I'm sorta shocked at the low numbers, though (only a few *hundred*)--dunno if numbers for Tech+ are at all similar, but if so I can certainly understand why the FCC is doing away with the two classes. They're all going to no-code Tech and General anyways...

All in all, it doesn't look like THAT much of a disaster. A lot of the stuff (like emphasis on not having powerhog stations, and possibly firming up exams) could well be good for QRP anyways. I dare say that if some of

the proposals that are still having comments taken do get passed, we'll be on the cutting edge, so to speak :)

At least for me, it is something I could definitely live with.

> Kevin, WB5RUE

-pb

Date: Wed, 12 Aug 1998 12:16:38 -0400
From: "Vincent Ferme" <vferme@sprint.ca>
To: <jokortge@mci2000.com>, "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>
Subject: [17386] Re: ELECTRONIC WORKBENCH
Message-ID: <00a901bdc60c\$a4a0f100\$171205d1@frsswilap04284.callnetcanada.com>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Jim and Group,

I received the OrCAD CD, and as far as I can tell the PSpice version included (v.8) is exactly the same as before. Actually, PSpice on this demo CD has not been re-branded as OrCAD, it's still MicroSim.

73/72 de Vince, VE3VFN.

Date: Wed, 12 Aug 1998 09:26:47 +0000
From: Bob Hightower <ki7mn@dancris.com>
To: kc8er@harborcom.net
Cc: qrp-1@lehigh.EDU
Subject: [17387] Re: FCC Proposal
Message-ID: <199808121621.JAA00833@user2.dancris.com>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

At 08:16 AM 8/12/98 -0400, you wrote:

>

>The TECH PLUS people already TOOK the General Written test! They just
>hadn't passed the 13 WPM code test yet!
>
No, no, no. They took the Novice and Tech written, and the 5wpm code tests.
The General written in another critter altogether.

Date: Wed, 12 Aug 1998 12:25:18 -0400 (EDT)
From: Paula Bailey <pmbail01@ox.slug.louisville.edu>
To: "James C. Owen, III" <owen@piper.eeel.nist.gov>
Cc: Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>
Subject: [17388] RE: FCC Proposal
Message-ID: <Pine.LNX.3.96.980812121653.20042C-1000000@ox.slug.louisville.edu>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

On Wed, 12 Aug 1998, James C. Owen, III wrote:

> > To the ones that have asked the above question. Maybe you don't have the
> > FCC proposal and are going by other opinions but in the FCC proposal it
> > doesn't say anything about grandfathering. What it does say is "Novice
> > and TechPlus licensees would retain CURRENT operating privileges". So
> > what you have now is what you'll keep but no new Novice and Tech+
> > licenses will be issued.
> >
> And I should have added that the 5 WPM code requirement would be dropped
> since there is no more novice and Tech +. The first code requirement to get
> on HF would be the general requirement, 13 WPM.

Possibly. :)

In the proposed new FCC rules it *does* have a request for public comment
on the speed of future license exams (in other words, they ARE still
writing parts of the proposed laws and want to hear from hams on it).

Based on this, and based on the fact that General will now be the *de
facto* entryway to HF privs (assuming that in 2001 the ITU doesn't do away
with the HF code requirement altogether), I would be very, very surprised
if the General code exam remains at 13wpm in the "final" version of the
law. There will be a *lot* of people screaming to the FCC to drop the
General code exam to 5wpm.

I will also be surprised (though maybe less so) to see the Extra 20wpm
code test stay; the FCC proposal did specifically mention a request to
have the Extra class exam dropped to 13wpm.

Since the FCC is still actively accepting comments on the code tests, I honestly expect to see a three-tier code exam system in the final version; none for Tech (but then again, no HF either unless the ITU drops the code requirement), 5wpm for General, 13wpm for Advanced and Extra.

Then again, I may well get surprised in that everything stays how it is, too (if they're expecting the code requirement to get dropped). I'm just glad I'm working at getting my code up to 13wpm anyways...that, or I better hurry up and make sure my 5wpm code is **solid** and get the Tech+ ticket while the gettin's good :)

> 72 Jim K4CGY

-pb

Date: Wed, 12 Aug 1998 11:54:21 -0300
From: "Prof. Arnaldo Coro Antich" <inforhc@mail.infocom.etcса.сu>
To: <qrp-1@lehigh.EDU>
Subject: [17389] RE: Short antennas that work !
Message-ID: <01bdc601\$170655c0\$LocalHost@inforhc>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

As most of the actual radiation of the electromagnetic wave from a symetrical dipole antenna is coming from the high current portion of it, one can make really highly effective SHORT DIPOLES.... using the following step by step technnique...

1. Decide operating frequency
2. Calculate 1/8 of wavelength at that frequency
3. Design a high Q coil which has turns spaced one wire diameter and an appropriate length to diameter ratio...
(read a bit about that in the Handbooks)
4. The coil must have enough inductance to "end load" de 1/8 wavelength actual radiators , so as to compensate for the "missing" length of the antenna. You will find in the books the inductive reactance required for the coil of this type of center fed antenna.
5. Build coil, assemble it each end of the 1/8 wavelength sections
6. Measure resonant frequency of the systems with any well know method (grid dip meter is good enough)

7. Add lengths of wire AFTER the coils to bring resonance to desired frequency... and then tune with care for minimum SWR at center of passband you are going to use
 8. Feed the shortened dipole with 50 ohm coax, and do it through a 1 to 1 balun... results will be much more consistent when the coaxial cable braid is NOT part of the radiating system
 9. After some practice, you can make an antenna for the 20 meter band that is just the size of a 10 meter dipole and which may be perhaps -1 or - 2dB below a full length dipole's efficiency
 10. Be aware that the antenna will have less bandwidth to the 2 to 1 SWR points than a full length dipole... but that is small price to pay for such a small and really portable antenna
 11. A 40 meter antenna using this design is the size of a 20 meter dipole, but you can even make it smaller by using capacitive end loading... that will shorten it a bit more , and would not make it much less broadbanded
The capacitive hats are made from wire or you can use aluminium disks (they sure look nice !!!!!)
 12. I have used this system from 160 to 2 meters with excellent results... all you need is a well designed loading coil, the 1 to 1 balun, the grid dip meter and the SWR meter
- and enough time to experiment... This antenna is , as all are... sensitive to the surroundings, so real tuning should be done with antenna in final position, or you can adjust it at one location, and then just use it via the antenna tuner to compensate for higher SWR in another environment.

NOW... don't try to make the RADIATING PART of the antenna shorter than 1/8 wavelength.... efficiency will go down very fast as you shorten the wire between the center insulator of the dipole and the coil... and before I forget... making the 1/8 wavelength radiating part of the antenna with TWO WIRES separated by about 30 to 60 centimeters (1 to 2 feet) and of course connected in parallel at both ends (center insulator and at the point you connect the coil) makes this antenna show a much broader SWR curve... Of course that the FAT DIPOLE approach needs spreaders, and makes it a much more cumbersome antenna to carry around, but if you are at a fixed location, using the two wires on each side of the dipole will certainly help !

Hope this helps those in need of short, but at the same time

efficient antennas
Arnie Coro
C02KK
Host of Dxers Unlimited
Radio Habana Cuba
PO Box 6240 Habana Cuba
e-mail: arnie@radiohc.org
e-mail inforhc@mail.infocom.etecsa.cu
Phone: 53 -7 - 814243
,

Date: Wed, 12 Aug 1998 11:40:33 -0500
From: "Kevin Muenzler WB5RUE" <wb5rue@stic.net>
To: <jimc@msw0.attnet.or.jp>, "'Low Power Amateur Radio Discussion'" <qrp-1@Lehigh.EDU>
Subject: [17390] RE: memory w/keyers
Message-ID: <19980812164036176.AAA219@muenzlerk>

I occasionally use a memory keyer. I use the memory for things like calling CQ. I have my name and QTH in memory as well. Use it for anything that you send often that doesn't change.

Kevin, WB5RUE

Date: Wed, 12 Aug 1998 10:55:35 -0600
From: "Jerry McCollom" <jmc@cnd.hp.com>
To: "'Low Power Amateur Radio Discussion'" <qrp-1@Lehigh.EDU>
Subject: [17391] RE: NW40 + Other Stuff For Sale
Message-ID: <000c01bdc612\$0670ab00\$38620f0f@fcjmcp.fc.hp.com>
Mime-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Now it's all gone. Thanks everyone!

Jerry W0MC

volts to +1.5 volts, measuring the drain current at every 0.1 volt step. This produced an S-shaped curve with drain current at zero when the gate was at -0.6 volts and 7.6 mA when the gate voltage was 1.5 volts. At its steepest the curve gave about 4 mA/volt. Gate 2 voltage was 0 volts.

Then I repeated the test with gate 1 held at 0 volts and gate 2 swung from -1 volt to +4 volts. At -1 volt the drain current was zero. Between -1 and 0 volts the curve was S-shaped, but positive values of gate 2 voltage gave a linear current/voltage relationship of 1.5 mA/volt. The test stopped at $I_D=10$ mA because when I changed ranges on the analog meter it read 12 mA! I did not try varying both gate voltages in the same test.

The data sheet says that the device should have a minimum GFS of 25 mA/V but neither of my curves was that steep. Was I measuring something else?

When the device is used as an amplifier it seems that the signal is usually applied to gate 1 and gain control to gate 2. Does altering the gate 2 voltage shift the signal up and down the gate 1 curve or does it alter the gradient of the gate 1 curve? I suppose I'll have to do more tests. I'm assuming that gate 2 is nearer the drain in the symbol - it often isn't marked.

When used as a mixer does the local oscillator always feed gate 2? Can anyone point me in the direction of a good description of our "four-legged friend"?

Many thanks in advance for any info.

73 all de John G4EDX

Date: Wed, 12 Aug 1998 10:04:12 -0700 (PDT)
From: KC5TJA <kc5tja@topaz.axisinternet.com>
To: CRAIG A REYNOLDS <KF4AXT@prodigy.net>
Cc: Low Power Amateur Radio Discussion <qrp-1@lehigh.EDU>
Subject: [17394] Re: your mail
Message-ID: <Pine.LNX.3.96.980812100250.6764B-100000@topaz.axisinternet.com>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

On Tue, 11 Aug 1998, CRAIG A REYNOLDS wrote:

> Also Fellas Since I am moving into a dorm room with NO space for
> antennas ..I was searching for suggestions on how to build a non-wire 20
> meter antenna? or buyit has to be real small Luke

You may want to consider a small transmitting loop (STL) antenna. I've yet to build one myself, but I live in an apartment complex with a no-antenna restriction myself. I'm planning on building one for 40m that's a total of no more than 2m in diameter.

```
=====
      KC5TJA/6      |      -| TEAM DOLPHIN |-
      DM13          |      Samuel A. Falvo II
      QRP-L #1447   |      http://www.dolphin.openprojects.net
      Oceanside, CA |.....
```

Date: Wed, 12 Aug 1998 10:15:43 -0700 (MST)
From: Chris Trask <ctrask@primenet.com>
To: John Fletcher <johnf@innotts.co.uk>
Cc: Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>
Subject: [17395] Re: Help understanding dual-gate MOSFETs (Longish)
Message-ID: <Pine.BSI.3.96.980812101302.16828C-100000@usr02.primenet.com>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

On Wed, 12 Aug 1998, John Fletcher wrote:

> Hello All,
>
> Recently on this list (or was it the G-QRPL?) someone mentioned the BF964S
> as a substitute for the metal-canned dual-gate MOSFETs. I bought some and
> decided to do an experiment because I've never been very familiar with
> these devices, or seen a description of how they're used.

>
>
>
>
>

> When used as a mixer does the local oscillator always feed gate 2? Can
> anyone point me in the direction of a good description of our "four-
> legged friend"?
>

It can actually be done either way, although the traditional method is to feed the LO into gate 2. Somebody recently published a paper wherein the signal was input to gate 2 and the gate 1 voltage was varied to produce a phase shifter. Not so sure that I would recommend this myself, but who knows?

Circuit Design for the
RF Impaired

Chris Trask / N7ZWY
Principal Engineer
ATG Design Services
P.O. Box 25240
Tempe, Arizona 85285-5240

Technical Editor,
QRP Quarterly
QRP ARCI 9464

Email: ctrask@primenet.com
<http://www.primenet.com/~ctrask>

Date: Wed, 12 Aug 1998 10:10:31 -0700 (PDT)
From: KC5TJA <kc5tja@topaz.axisinternet.com>
To: "Peter C. Buehner" <kc8er@harborcom.net>
Cc: Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>
Subject: [17396] Re: FCC Proposal
Message-ID: <Pine.LNX.3.96.980812100924.6764D-100000@topaz.axisinternet.com>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

On Wed, 12 Aug 1998, Peter C. Buehner wrote:

```
> The TECH PLUS people already TOOK the General Written test! They just
> hadn't passed the 13 WPM code test yet!
```

Really? Wow...that was remarkably easy, considering it was five years ago. I guess I had better start studying for my advanced exam then! :)

I still need to take the 13wpm code test, so why not jump from T+ directly to advanced? That'd be sweet!

KC5TJA/6
DM13

- | TEAM DOLPHIN | -
Samuel A. Falvo II

QRP-L #1447 | <http://www.dolphin.openprojects.net>
Oceanside, CA |

Date: Wed, 12 Aug 1998 10:27:27 -0700
From: k6hcj@JUNO.COM (Marv Fagenson)
To: qrp-l@Lehigh.EDU
Cc: kg6ip@qnet.com, RMason@ellermedia.com, swardlaw@earthlink.net,
moretech@msn.com
Subject: [17397] Ham Gear for Sale
Message-ID: <19980812.102728.3758.0.k6hcj@juno.com>

I am posting for my friend, Russ, KG6IP. He has the following eqpt. for sale. You discuss prices w/ him, pse.

KG6IP numbers follow.
Home phone: 805-949-0646
Work Phone: 213-730-4260
E-mail:KG6IP@Qnet.com

The List follows:

1. 40 ft tubular crank up/tilt over tower
2. Hy Gain Explorer 14 Tribander/40M add on kit
3. Mosley 12/17 mtr Rotatable dipole
4. Yaesu 757 GX and matching HD pwr supply
5. MFJ Versa Tuner III Tuner
6. JPS NIR-10 DSP filter
7. MFJ 247 swr analyzer
8. Complete packet system:
 - AEA PK 232MBX
 - Yaesu 208R 2m HT
 - Astron RS7-7A pwr supply
 - Mirage B-34 (35 w Amp)
 - 4 el 2m Beam

Marv Fagenson
k6hcj@Juno.com

You don't need to buy Internet access to use free Internet e-mail.
Get completely free e-mail from Juno at <http://www.juno.com>
Or call Juno at (800) 654-JUNO [654-5866]

Date: Wed, 12 Aug 1998 12:37:47 -0500
From: Kelly <kelman@dialnet.net>
To: qrp-l@lehigh.EDU
Subject: [17398] re:simple request
Message-ID: <35D1D2EB.C8A58BCE@dialnet.net>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Maybe some of you didn't read this from Chuck Adams...

So I thought I would post it again as a reminder:

This week the FCC will come out with some new stuff. Please do not start that thread on this group. 1. We, QRP-L, will not make much difference in the results. We are out numbered and out gunned politically. It's a fact Jack. 2. You can get all the information from a dozen other sources and get much more discussion than you'd get here and more varied opinions. 3. And it is not the function of QRP-L to solve all of the problems in the world. ;-)
Soapbox off. Beam me up Scottie.
dit dit
End of quote...

Please, Please, Please keep it off the list.

Kelly Ellison
WB0WQS

Date: Wed, 12 Aug 1998 10:31:09 -0700 (PDT)
From: KC5TJA <kc5tja@topaz.axisinternet.com>
To: Bob Hightower <ki7mn@dancris.com>
Cc: Low Power Amateur Radio Discussion <qrp-l@lehigh.EDU>
Subject: [17399] Re: FCC Proposal
Message-ID: <Pine.LNX.3.96.980812103049.6764F-100000@topaz.axisinternet.com>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

On Wed, 12 Aug 1998, Bob Hightower wrote:

> >The TECH PLUS people already TOOK the General Written test! They just
> >hadn't passed the 13 WPM code test yet!
> >
> No, no, no. They took the Novice and Tech written, and the 5wpm code tests.

> The General written in another critter altogether.

This is what I thought... Disregard my prior message. :)

```
=====
      KC5TJA/6      |      -| TEAM DOLPHIN |-
      DM13          |      Samuel A. Falvo II
      QRP-L #1447   |      http://www.dolphin.openprojects.net
      Oceanside, CA |.....
```

Date: Wed, 12 Aug 1998 12:56:32 -0500
From: Chris Cieslak <ccieslak@LAW.UIUC.EDU>
To: "'KF4AXT@prodigy.net'" <KF4AXT@prodigy.net>, "'qrp-l@lehigh.edu'" <qrp-l@lehigh.EDU>
Subject: [17400] RE: MINI PADDLES AND MINI STRAIGHT KEYS
Message-ID: <9171552F3022D1118B9F00805FFEB54601485F17@law-mail.law.uiuc.edu>
MIME-Version: 1.0
Content-Type: text/plain

g4zpy makes some tiny keys... see

<http://website.lineone.net/~g4zpy/index.htm>

standard disclaimer applies.

73, chris aa9hd

> -----
> From: CRAIG A REYNOLDS[SMTP:KF4AXT@prodigy.net]
> Reply To: KF4AXT@prodigy.net
> Sent: Wednesday, August 12, 1998 12:33 AM
> To: Low Power Amateur Radio Discussion
> Subject: MINI PADDLES AND MINI STRAIGHT KEYS
>
> Fellas ,
> I am looking for a nice mini straight key or paddle and also I was
> wondering
> if anybody knows the name of the british ham who makes tiny keys?
> Luke
>
>

Date: Wed, 12 Aug 1998 10:59:47 -0700
From: Andy Fox <foxes@theriver.com>
To: n7kt@earthlink.net
Cc: Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>
Subject: [17401] Re: FCC Proposal
Message-ID: <35D1D813.8AF4612F@theriver.com>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Hello,

The current requirements for the existing six license classes can be found at: <http://www.fcc.gov/wtb/amateur/amhow2.html>

Here's looking forward to the Elmer101: event tonight. Hope to work a bunch of you!

--

72/73 de Andy, KK7HV - QRP-L #1286 - Tucson, AZ

Date: Wed, 12 Aug 1998 13:58:26 EDT
From: RangerSF5@aol.com
To: inforhc@mail.infocom.etecsa.cu, qrp-l@Lehigh.EDU
Subject: [17402] Re: Short antennas that work !
Message-ID: <584f131c.35d1d7c3@aol.com>
Mime-Version: 1.0
Content-type: text/plain; charset=US-ASCII
Content-transfer-encoding: 7bit

In a message dated 98-08-12 12:46:45 EDT, you write:

<< pole's efficiency

10. Be aware that the antenna will have less bandwidth to the 2 to 1 SWR points than a full length dipole... but that is small price to pay for such a small and really portable antenna

The above statement is not always true.

My 17 foot coil loaded 20 meter antenna covers the WHOLE CW band and even goes into the lower part of SSB before the SWR hits 2.0.

I uploaded the info on this antenna to a lot of guys/.Gal's out there.

Anyone build one yet?

I'm on 20 everynight appx 14.055 with the ARK.20

Switching back and forth between this antenna and the full half wave, My ears cannot detect any difference in weak stations

Bob

WA2HOQ

Date: Wed, 12 Aug 1998 10:49:29 -0700 (PDT)
From: KC5TJA <kc5tja@topaz.axisinternet.com>
To: Paula Bailey <pmbail01@ox.slug.louisville.edu>
Cc: Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>
Subject: [17403] A QRPer's Extra Exam?
Message-ID: <Pine.LNX.3.96.980812103300.6764G-100000@topaz.axisinternet.com>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

I know that this isn't the right place to pose this question, so I ask that all responses to this be kept to private e-mail (unless you feel that it is suitable for open discussion -- K5FO, what do you think?).

> I will also be surprised (though maybe less so) to see the Extra 20wpm
> code test stay; the FCC proposal did specifically mention a request to
> have the Extra class exam dropped to 13wpm.

If they're considering keeping General at 13wpm (which seems suitable to me), and dropping code speed for Extra exams to 13wpm as well, then what will provide the extra challenge to upgrade?

If you ask me, I think it should be this:

To go from General to Advanced, keep it the same. This includes learning additional theory and operating practices. But to go from Advanced to Extra, you need to PROVE you know your 'advanced' skills by actually BUILDING a working ([])V[U]S)HF transceiver, which meets *ALL* FCC Part 97 rules and regulations. Maximum power output would be 5W for CW, 10W for SSB. Full circuit disclosure (including schematics and a complete, written, theory of operation) must be supplied as well. No written exams. No code tests. Just a working radio, with complete documentation, proving you know your schtuff. Oh yeah, that reminds me -- the radio built should cover ONLY the advanced portions of the ham band of interest (since you're an Advanced class [presumably] while building this radio), and the testee must -already- have an Advanced class license to qualify for the upgrade. This prevents a tech+ or general from jumping directly to Extra just because he knows how to build a radio for his portions of the band.

This opens the possibility to having multiple Extra-class licenses -- one for HF, one for VHF, one for UHF, one for SHF, etc. In a way, this is

basically FCC Part 97 type approval for home brew ham gear. The difference, though, is once you have your license, you needn't re-submit your rigs for "type approval", just like it is now, until your license expires or you re-new.

Ideas? Comments?

BTW: For what it's worth, I'm only a tech+ right now. Under the plan posed above, the highest I could achieve would most likely be general (assuming a 5wpm General code speed), as my code speed isn't anywhere near 13wpm. Advanced would be tougher, but doable if I have the time. Going to extra would likely be a bit more difficult for me, as I don't have appropriate test gear. :)

```
=====
KC5TJA/6      |                               -| TEAM DOLPHIN |-
DM13          |                               Samuel A. Falvo II
QRP-L #1447   |                               http://www.dolphin.openprojects.net
Oceanside, CA |.....
```

Date: Wed, 12 Aug 98 13:03:22 -0600
From: cjcole <cjcole@ames.net>
To: "QRP-L List" <qrp-l@Lehigh.EDU>
Subject: [17404] FCC Proposal
Message-ID: <199808121814.NAA27818@brain.ames.net>
Mime-Version: 1.0
Content-Type: text/plain; charset="US-ASCII"

Here is what it says in the FCC proposal at the FCC web site:

We therefore propose that the Technician Plus Class be phased out. Holders of an FCC-issued Technician Class operator license granted before March 21, 1987, have previously passed the written examination required to qualify for a General Class operator license. Other Technician Plus Class operators could qualify for a General Class operator license by passing written examination Element 3(B) which consists of thirty questions on the additional privileges of a General Class operator license and the 13 or 20 wpm telegraphy examination.

Could someone put this in plain english??
Chris

Date: Wed, 12 Aug 1998 13:16:35 -0500
From: kreinbd@ccgate.dl.nec.com (David Kreinberg)
To: qrp-l@Lehigh.EDU
Subject: [17405] INFO/COMMENTS ON ICQ7A
Message-ID: <000A1F15.4159@ccgate.dl.nec.com>
Mime-Version: 1.0
Content-Type: text/plain; charset=US-ASCII
Content-Transfer-Encoding: 7bit
Content-Description: cc:Mail note part

Hi Gang,

Wow, actually a non-FCC proposal question!!

Was wondering if anyone has first hand
knowledge of the new Icom ICQ7A dual
bander. For those who haven't seen it:

2m/440 TX/RX
30MHz to 1.2GHz RX!! (including 6m, hurray)
350mW output power
alkaline or Nicad power source
ultra small size
scanner features

This will be my 1st HT experience, so don't know
much about them. This one looks like a winner, and
I really like the very wide RX feature.

All comments welcome. TIA

73 de Dave, NR3E
QRP-L #25
nr Dallas, TX

Date: Wed, 12 Aug 1998 12:30:41 -0600
From: "Marshall Emm" <mgemm@mtechnologies.com>
To: qrp-l@Lehigh.EDU, cw@qth.net, cqclist@mtechnologies.com
Subject: [17406] Bidding Closes on Single Digit Nye 330C Keys
Message-ID: <199808121830.MAA05931@edison.chisp.net>
MIME-Version: 1.0

Content-type: text/plain; charset=US-ASCII
Content-transfer-encoding: 7BIT

Bidding on the new Nye Model 330C key, with single digit serial numbers, closes at midnight (MDT) tonight. If you missed the announcement and followup, you'll find details on the web, along with a picture of the 330C, at <http://www.MorseX.com/nye.htm>. If you don't have access to the web you can e-mail me or call me on (303) 752-3382. Remember, proceeds from the sale of these keys will fund an annual award for encouragement of CW.

73
Marshall Emm
N1FN/VK5FN
n1fn@MorseX.com
Morse Express
"Everything for the Morse Enthusiast"
<http://www.MorseX.com>
(303)752-3382
--

Date: Wed, 12 Aug 1998 14:16:28 -0700
From: Allen Jones <ajones@adsnet.com>
To: qrp-1@Lehigh.EDU
Subject: [17407] Heights Towers still around?
Message-ID: <3.0.5.32.19980812141628.007bbe40@mail.adsnet.com>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

Does anyone here on the reflector know if Heights Tower Systems is still in business? The last location I have for them was an ad in '73 magazine from 1992 which had them in Lapeer, Mi. I also have a flyer which came from a hamfest a few years ago which had them in Grosse Ile, Mi. All the phone numbers, including an 800 number are bad. I'm getting ready to move and need to get parts for a new tower base. Any info would be much appreciated.

Thanks

Allen Jones, W9DZ
Michigan City, IN

Date: Wed, 12 Aug 1998 12:10:01 -0700 (PDT)
From: KC5TJA <kc5tja@topaz.axisinternet.com>
To: "Rich Dailey, KA8OKH" <ka8okh@som-uky.campus.mci.net>
Cc: Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>
Subject: [17408] Re: Miles per watt with BPSK?
Message-ID: <Pine.LNX.3.96.980812120834.16697A-1000000@topaz.axisinternet.com>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

> Anybody keeping score on distance/qrp accomplishments
> using BPSK. Vic's article in QRPp has lit a lil fire under me...
> I feel (yet another) winter project coming on. Check out these
> sites -

What, exactly, does BPSK sound like? I envision that it'd sound pretty close to white noise.

```
=====
      KC5TJA/6      |      -| TEAM DOLPHIN |-
      DM13          |      Samuel A. Falvo II
      QRP-L #1447   |      http://www.dolphin.openprojects.net
      Oceanside, CA |.....
```

Date: Wed, 12 Aug 1998 13:13:58 -0400
From: "Jay Heffner" <cjayheff@erols.com>
To: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>
Subject: [17409] rig for sale
Message-ID: <01bdc614\$97ccd130\$0a6daccf@scs-micron1.eng.usps.gov>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

FT-840 FS. MINT condx, has a total of 10-15 transmitting hours.
AM/FM/SSB/CW. Dual VFOs (built in). General coverage RX. Asking \$700.

73,
Craig, KF4NYZh

Date: Wed, 12 Aug 1998 14:45:52 cdt
From: wj5o@juno.com (William H. Hays)
To: QRP-L@Lehigh.EDU, TENTEN-L@Lehigh.EDU
Subject: [17410] GDO coils "how"
Message-ID: <19980812.144553.4678.0.WJ50@juno.com>

I appreciate all the helpful responses that I received to my query.

I have responded to each of them individually however, I logged my coil making experiences to help anyone else that might undertake the task.

73 Bill WJ50

How I made working GDO coils.

1. Look at the schematic and determine variable Capacitance that will resonate with a coil.
2. Look at the frequency scale on the GDO. Set the GDO to mid frequency on the selected band.
3. Determine Inductance required to resonate with the variable capacitor at the selected mid frequency.
(formula $L = 1 / (39.5 \times F \times F \times C)$ F = cycles per second C = in Farads
(or from charts found in ARRL Handbooks or ARRL L/C/F calculator "slip rule")
4. Phenolic or plastic sheet stock cut in rectangle---3/16" thick works FB.
(I used phenolic cut 2.5 X 1.5"---drilled two holes to match receptacles on GDO)
(Broke the case of a couple of old tubes & super glued the pins into the drilled holes.)
5. Cut 2" lengths of 1" schedule 40 PVC pipe.
6. Internally hot glue the 2" pieces onto the phenolic between the pins.
7. Select wire size to get inductance required and wrap the coil. (Use the largest size wire possible)
(As the "Q" figure increases so does the broad-bandness of the coil)
8. Make a "sniffer" antenna for a general coverage receiver. Position at least 6 inches from the GDO coil.
9. Set the receiver frequency to the frequency indicated on the GDO.
10. Tune the receiver up and down to find the GDO signal.
11. Determine if more or less inductance is needed for the two frequencies to match.
(Add windings to increase inductance---I adjust on slightly "High" side and "Tweak" later.)
12. When ever the frequencies are reasonably close "lock in to place".
(I dipped into Plasti-Dip used for tool handles---"Heat shrink" or hot glue works.)

13. Check the frequencies again. Hopefully still a little high.
(I tweaked the frequencies by cementing ferrite beads inside the PVC--I adjusted the position and squeezed the glue while it was still "On frequency". When I needed more than one bead, I wired together.)
14. Mark the coil according to letter or frequency.

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Date: Wed, 12 Aug 1998 13:14:53 -0700 (PDT)
From: Stephen Lee <slee@u.washington.edu>
To: qrp-l@lehigh.EDU
Subject: [17411] Spectrum Analyzer/Scope Adaptor
Message-ID: <Pine.A41.3.95b.980812124333.149814A-1000000@homer29.u.washington.edu>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

I seem to be missing some pages from the write up on this Spectrum Analyzer/Scope Adaptor. Mine is one from the original batch of kits. I've got pages 1 through 9 but cannot locate the schematic since we moved about a year ago. Anyway, for the "Start" and the "Span" pots I've been using 20K Ohm miniatures and need to confirm whether these were the specified values. BTW, this SA/SA works fine business. Tks!

de AB7HI, Stephen Lee, Federal Way, WA

Date: Wed, 12 Aug 1998 17:02:18 -0400
From: Michael Maiorana <mikemo@ibm.net>
To: qrp-l <qrp-l@Lehigh.EDU>
Subject: [17412] No-qrp
Message-ID: <35D202DA.C01FC30F@ibm.net>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

For a good laugh, check out this link <http://www.qsl.net/kh2d/noqrp.html>

--

72 de ku4qo Mike Maiorana Palm Harbor, FL

Date: Wed, 12 Aug 1998 16:04:09 -0500 (CDT)
From: "Jeff Logullo - SE Sun St. Louis" <Jeff.Logullo@Central.Sun.COM>
To: qrp-1@Lehigh.EDU
Subject: [17413] FCC NPRM released!
Message-ID: <199808122106.QAA17803@sunarch2.Central.Sun.COM>
MIME-Version: 1.0
Content-Type: TEXT/plain; charset=us-ascii
Content-MD5: Qf47Tcma8dkgK1LKweyXIw==

Full story available at:

<http://www.fcc.gov/Bureaus/Wireless/Notices/1998/fcc98183.txt>

1998 Biennial Regulatory Review -- Amendment of Part 97 of the
Commission's Amateur Service Rules.

II. EXECUTIVE SUMMARY

3. In this Notice, we propose to modify our Amateur Radio Service rules as follows:

- o Reduce the number of license classes from 6 to 4.

- o Provide greater opportunities to volunteer examiners (VEs) to participate in the examination process.

- o Eliminate Radio Amateur Civil Emergency Service (RACES) licenses because the emergency communications that routinely are transmitted by RACES stations can be transmitted by primary, club or military recreation stations.

4. We seek comment on ideas for improving our enforcement processes as they relate to amateur radio.

5. We also seek comment on changes to the telegraphy requirements for the amateur radio service and to the written examinations that must be passed to qualify for an amateur radio license.

6. Finally, we dispose of various routine and repetitive petitions for rule making which concern matters on which the Commission already has acted.

Jeff Logullo, N0MII jeff.logullo@central.sun.com

Date: Wed, 12 Aug 1998 17:16:29 EDT
From: RangerSF5@aol.com
To: qrp-1@lehigh.EDU
Subject: [17414] LQQKING FOR KY2R
Message-ID: <aec36d46.35d2062e@aol.com>
Mime-Version: 1.0
Content-type: text/plain; charset=US-ASCII
Content-transfer-encoding: 7bit

Anyone know if KY2R has an *E* mail?
I worked him way back in JULY,1980 I was his first ARCI contact.
His ARCI number is 4594 and i'm 4600
He was also my first ARCI contact
He was running 1 watt input and I was running 3 watts input.
Bob
WA2HQQ

Date: Wed, 12 Aug 1998 15:30:55 -0500
From: ab5uacw@juno.com (Clifton W Sikes)
To: qrp-1@lehigh.EDU
Subject: [17415] Longwire help.....pse!!!
Message-ID: <19980812.161453.6622.0.ab5uacw@juno.com>

I have 600 ft. of wire, 13 acres and very few trees. Can one of you kind folks with antenna software give me some help? The "73 Longwires" book goes into great detail on off center fed long antennas, but not much on end fed. At least I am not seeing it. What I'm after is better performance on 80m. What would a 200 ft. wire do? How about 400ft, or 600 ft? Like I said, no trees to speak of.

I'm a computer idiot, and admit it! I lean more towards flintlocks, fly rods, and folk music. That's just the way I am. That's why QRP is my radio bag.

Thanks,

Clif AB5UA

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Or call Juno at (800) 654-JUNO [654-5866]

Date: Wed, 12 Aug 1998 17:00:02 -0500 (EST)
From: bkobie@webtv.net (patrick obrien)
To: qrp-1@Lehigh.EDU
Subject: [17416] need info
Message-ID: <13022-35D21062-2839@mailtod-131.iap.bryant.webtv.net>
Content-Type: Text/Plain; Charset=US-ASCII
Content-Transfer-Encoding: 7Bit
MIME-Version: 1.0 (WebTV)

on the new vectronics linears 1 watt in 20 out...we want to run approx
3-5 watts in...what do i change to accomplish this or go the easy route
and reduce the xmtr output? tnx 72 pat/k8len

Date: Wed, 12 Aug 1998 15:21:40 -0700 (PDT)
From: Stephen Lee <slee@u.washington.edu>
To: patrick obrien <bkobie@webtv.net>
Cc: Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>
Subject: [17417] Re: need info
Message-ID: <Pine.A41.3.95b.980812151152.113024B-100000@homer16.u.washington.edu>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

You want to put attenuators just in front of the input of the linear.
Looks like 7db will bring a 5 watt signal down to 1 watt or just
under. Store bought attenuators are not cheap. Newark has in their
catalog a 20 watt rated attenuator that sums as much as 36db of
attenuation. Don't know if this will fill your bill but it's the
least expensive I've seen in their catalog. Newark Stock Number:
46F2332 at a cost of \$16.72 each. Enjoy!

Stephen Lee

On Wed, 12 Aug 1998, patrick obrien wrote:

> on the new vectronics linears 1 watt in 20 out...we want to run approx
> 3-5 watts in...what do i change to accomplish this or go the easy route
> and reduce the xmtr output? tn timer/k8len
>
>
>

Date: Wed, 12 Aug 1998 17:37:48
From: Roger Braker <msebrakr@telepath.com>
To: qrp-1@Lehigh.EDU
Subject: [17418] Re: No-qrp
Message-ID: <3.0.5.16.19980812173748.0e6f8836@telepath.com>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

He aslo has a "noqro) page. It says about the same thing as the noqrp
page. I think this guys has a screw loose:-) CUL

73,
Arnold kd5kch

At 05:02 PM 8/12/98 -0400, you wrote:
>For a good laugh, check out this link <http://www.qsl.net/kh2d/noqrp.html>
>--
>72 de ku4qo Mike Maiorana Palm Harbor, FL
>
>
>

Date: Wed, 12 Aug 1998 15:48:58 -0700
From: Jim Lowman <jmlowman@ix.netcom.com>
To: cjcole@ames.net
Cc: Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>
Subject: [17419] Re: FCC Proposal
Message-ID: <35D21BDA.C0282BA8@ix.netcom.com>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Chuck, I hope you'll forgive my posting on this topic but, as a VE,
I felt that some clarification was in order.

cjcole wrote:

>
> Here is what it says in the FCC proposal at the FCC web site:
>
> We therefore propose that the Technician Plus Class be phased out.
> Holders of an FCC-issued Technician Class operator license granted before
> March 21, 1987, have previously
> passed the written examination required to qualify for a General Class
> operator license. Other Technician
> Plus Class operators could qualify for a General Class operator license
> by passing written examination Element
> 3(B) which consists of thirty questions on the additional privileges of a
> General Class operator license and the
> 13 or 20 wpm telegraphy examination.
>
> Could someone put this in plain english??

OK, Chris. Of course, this IS just a proposal at this point in time
but,
for the sake of argument:

Those who passed the Technician exam prior to March 21, 1987 had to take
the
5 wpm code test, and the *General* theory exam. There was no Technician
Class
exam at that time. Typically, the candidate had already passed his/her
5 wpm
code test to get the Novice license, so it was a matter of taking the
General
theory exam.

At one time, the Novice license expired in one year, and could not be
renewed.
Hence, some hams who were having a battle with the 13 wpm code for
General,
would take the General theory and become a Technician, which was a
renewable
license. Sure beat being forced off the air, and losing one's callsign.

If such a candidate appeared for examination at a VE session today, and
he/she
could prove being licensed as a Technician on or before the March 21,
1987 date,
he/she would be given credit for elements 1A (5 wpm code), 2 (Novice

theory),
3A (Technician theory) and 3B (General theory). Thus, it would be
necessary to
pass *only* the element 1B (13 wpm code) exam to gain full General
status.

Maybe not any plainer, but I hope it helps.

72 de Jim - AD6CW

Date: Wed, 12 Aug 1998 17:55:02 -0500 (CDT)
From: ac5ez@webtv.net (Larry B)
To: qrp-1@Lehigh.EDU
Subject: [17420] Humor
Message-ID: <7895-35D21D46-3435@mailtod-121.bryant.webtv.net>
Content-Type: Text/Plain; Charset=US-ASCII
Content-Transfer-Encoding: 7Bit
MIME-Version: 1.0 (WebTV)

has a "noqro) page. It says about the same thing as the noqrp page. I
think this guys has a screw loose:-) CUL

73,
Arnold kd5kch

He has a good sense of humor

Larry Ac5ez

Date: Wed, 12 Aug 1998 15:55:35 -0700
From: Allan Taylor K7GT <k7gt@qsl.net>
To: qrp-1@lehigh.EDU
Subject: [17421] baby linears for QRP rigs
Message-ID: <35D21D67.6B89@qsl.net>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

A recent post mentioned a small linear(?) amplifier for following QRP
rigs. Could the poster (or others?) direct me to a source of information
on these? Vectronics? (I looked there and they only had BIG amps).

--

73 de K7GT

Allan Taylor (a.k.a. Grant) Pleasanton CA

email: k7gt@qsl.net

web page: <http://www.qsl.net.k7gt/index.html>

End of QRP-L Digest 1181
